Gleanings in Bee Culture

ESTABLISHED 1873

CONTENTS

DECEMBER, 1936

Honey Markets	708-709
If You Have a Sweet Tooth—Mrs. Benjamin Nielsen	713-715
A Top Entrance That's Different—A. H. Gates	715-717
Filtration of Honey—E. R. Root	718-720
Diminishing Bee Pastures—J. E. Eckert	721-723
Saskatchewan Honey Production—R. M. Pugh	723
Wisconsin Beekeepers' Meeting	724
Ohio Field Meeting—E. R. Root	725-727
A Confab—Conducted by the Editors	728-729
Two Rival Honey Trees—W. H. Hull	730
Cost of Producing Honey—E. S. Miller	731
Buckwheat Does Not Yield—H. Harley Selwyn	731-732
Those Hybrid Bees Again—Claude R. Kellogg	732-733
Honey Increases Haemoglobin—Dr. Henri Dorval	733
Comments on Current Items—J. F. Dunn	734
Spinster Jane Says—	735
Editorials	736-738
From North, East, West, and South	739-746
American Honey Institute Notes—Newman Lyle	747
Just News	748
Gleaned by Asking—The Editors	749
Heads of Grain from Different Fields	750-752

Subscription Rates—United States and Canada, one year, $1.00; two years for $1.50; three years for $2.00. Single copy, 10 cents. Other countries, 25c per year additional for postage. Discontinuance—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. Change of Address—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance should be sent by postoffice money order, bank draft, express money order or check. Contribution to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. Advertising Rates—Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Reliability—While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

Entered as second class mail matter at the Postoffice at Medina, Ohio. Published monthly.

THE A. I. ROOT COMPANY, PUBLISHERS, MEDINA, OHIO

E. R. Root and M. J. Deyell, Editors; M. W. Hobart, Assistant Editor; H. H. Root, Associate Editor; D. C. Babcock, Circulation Manager.

XUM

A COMPLETE LINE OF

Honey Containers

Friction-top Pails, 60-lb. Cans, Modernistic, Skep, and Plain Jars, Paper Cases, Cartons, and Wrappers for Comb Honey, Cartons for Shipping Single 60-lb. Cans of Honey, Cartons for Shipping Six 5-lb. Pails of Honey.

Everything you need to market your honey—is carried at our warehouse in Syracuse—the central shipping point of New York, with overnight truck shipment to most points.

5-lb. pails, in lots of 50, $3.45; in lots of 500, $32.00; 1,000 and over, $62.00 per 1000.

Send for our special container price list and booklet, "How to Sell Honey."

We are still rendering old combs and cappings. Send yours to us! We pay the highest market price for wax. Our complete terms will be sent on request.

A. I. Root Co. of Syracuse
Midland Ave. and Tallman St.
SYRACUSE, N. Y.

Serves You Best

Root Service from
CHICAGO

Beekeepers order early again.

WHY NOT?

Prices on bee supplies may be higher next year. Beekeeping is a good business. Be ready for a good endeavor next year. Let us know your requirements. We will gladly quote on your list.

We sell a complete line of containers, too—a lot of them and the best. It will be worth while to write for our prices.

Our Root Quality bee supply catalog and container price list are free. Ask for them.

A. I. Root Co. of Chicago
224 West Huron Street
CHICAGO, ILL.

Honey Containers

FRICTION TOP PAILS
2½-lb., 5-lb., and 10-lb. sizes.

5-GALLON TIN CANS
Priced in bulk or in cases of two each.

GLASSWARE
5-oz., 8-oz., 16-oz., 32-oz. and 64-oz. Modernistic, and also one pint round jars.

WINDOW CARTONS
Neat and well made, best package for your comb honey.

PAPER CASES FOR COMB HONEY
Holding 24 sections each for 1⅞" sections and 4x5 and 1½" plain sections.

CELLOPHANE WRAPPERS
Both plain and decorated.

TIN PASTE
It sticks, packed in pints, quarts and gallons.

M. H. Hunt & Son
510 N. Cedar St., Lansing, Mich.

PATENTS—Williamson & Walton
Attorney for The A. I. Root Co.
Munsey Bldg. Washington, D. C.

DEALERS ATTENTION

We have a special proposition of interest to all dealers or to all beekeepers who wish to become dealers of Beekeepers' Supplies. Write for information. All goods are GUARANTEED SATISFACTORY.

Falcon Quality Products

W. T. Falconer Mfg. Company
Falconer, New York

HONEY LABELS, THIRTY DESIGNS. THE A. I. ROOT CO., MEDINA, OHIO.

For Over 50 Years

Beekeepers in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

INSIST ON THE BEST

Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. Woodman Company
GRAND RAPIDS, MICH.

Merry Christmas

from

August Lotz Company
of Boyd, Wisconsin

. . . Wishing you a lasting and memorable Holiday Season.

. . . Endeavoring to convey to all of our friends through this cheery greeting a message of thanks and appreciation for the business you have given us during the last year and the years before.

. . . We are here to serve you. May we have your loyalty for years to come.

Honey

We buy white and amber extracted honey, also Fancy white comb honey.

Beeswax

We buy wax for cash. Write for shipping tags.

Old Comb

We render wax from old comb and do the job 100%. Write for prices.

Foundation

We work wax into highest quality comb foundation at very reasonable prices. Send for price list.

Bee Supplies

Here is where we shine. Send us your list of requirements. We will quote you good prices.

The Fred W. Muth Co., Cincinnati, Ohio

XUM

The Monthly Honey Market

Information from Producing Areas (first half of November)

California Points: Southern California: Recent weather has been generally clear, with normal temperatures, but the abundant late October rains should bring along afilaria and mustard earlier than usual. Winter stores are reported much below normal, and loss from starvation is expected to be substantial where feeding is not done. In some sections bees are working on pleasant days on occasional mustard, eucalyptus, and wild sun flowers, but nectar-bearing plants are extremely scarce. Honey has been in light demand with the market barely steady to slightly weaker. The ship strike has caused a weaker market tendency, although little honey now remains in the hands of beekeepers. Sales by beekeepers, in ton lots or more, per lb., f. o. b., southern California delivery points, range as follows: Orange, extra white to water white, 6¾c; white, 6½-6⅝c; buckwheat-sage, extra light amber, 5⅝-5¾c; light amber, 5⅜-5⅝c. The beeswax market is slightly stronger, with most wax bringing 21-22c per lb., few sales high at 23c per lb. delivered Los Angeles. Central California—Temperatures continue well above normal for the season with warm, sunny days the rule. Rains have fallen in the San Joaquin Valley, but generally rainfall is below normal for the season. However, spring weeds are well advanced and very abundant. Bees are still working occasionally on eucalyptus and rabbit brush. Colonies are going into winter with more honey than usual and are strong in young bees, with brood rearing about over. The pollen supply is reported good. Extracting of blue curl is about over, with averages reported ranging from 15 to 30 pounds and with honey from the better blue curl sections white in color. The cotton crop was very irregular, ranging in different sections from 25 to 60 pounds to the colony, and with a larger output of cotton honey than for some years past. Most of the cotton honey grades light amber to extra light amber and has a heavy body. The lima bean flow was also irregular, ranging 25 to 90 pounds of extra light amber to white honey. A few areas, however, report no lima bean flow because of unfavorable weather conditions. The honey market has been dull, with strike conditions responsible to considerable extent for the slow trading. The tie-up in shipping has stopped export movement, and the strike of warehousemen has halted distribution through the wholesale grocers to the local retail trade. Growers are offering honey more freely but dealers are buying in limited quantities as they experience difficulty in moving the honey that they have, and the market is therefore weaker. Sales by beekeepers in ton lots or more, f. o. b. central California delivery points, range per lb. as follows: Light amber cotton-alfalfa, 5-5¼c; white to water white orange, 6¼-6½c; blue curl, 5-5¼c; amber to light amber mixed flowers, 4½-4¾c. Northern California—Warm, sunny weather has continued, with limited rainfall. Very few nectar-bearing plants remain for bees to work on, and brood-rearing has about stopped. Rain is badly needed to start the annual winter vegetation as in some areas plants are showing the effects of the lack of rain. The market has been generally quiet, though a few buyers are reported showing interest in purchasing honey at this time. Prices are holding firm as little honey still remains in the hands of beekeepers. Bees are generally in good condition for winter with plenty of young bees and with sufficient stores. Sales by beekeepers in ton lots or more, f. o. b. northern California delivery points, follow, per lb.: Star thistle, extra light amber to white, 5¾-6c; light amber to extra light amber, 4¾-5c; some up to 5½c; extra light amber blue curl, 5½c; extra light amber alfalfa, 5½c.

The market for beeswax has held steady, with good yellow wax selling at 22-22½c per lb., f. o. b., central and northern California points.

Pacific Northwest: West of Cascades—Some rain has fallen along the Washington coast, but less in western Oregon where there has not been enough rain generally to start the vetch or mustard plants, though in some vetch fields partial germination is reported. Bees are in fine shape, with ample stores except that some colonies are short of pollen, though other areas report the best supply of pollen in years. Few sales reported, light amber fireweed, 5½-6¼c per lb.; mixed flowers, light amber to white, ton lots, 6c per lb.; small pails, 8-9c. Comb honey, $3.00-3.50 per case. East of Cascades—In the Yakima valley temperatures have been below normal and bees have been kept in the hives much of the time. However, they are in excellent condition for winter as to bees and stores. Extracting is about over and the crop is moving rather rapidly at prices about on last year's level. White alfalfa-sweet clover has sold in large lots at 5¾-6c per lb., cans furnished; small pails, 8-8½c; light amber 60c, 6⅔c; small pails, 8c per lb. No. 2 comb honey, $2.50 per case. Beeswax, 23c per lb. In the Umatilla valley there has been little rainfall this fall—insufficient to start seeding. Wild buckwheat flow was good before the flowers became frozen. Winter stores are generally ample and bees are in fully normal condition. Sales reported, white to light amber alfalfa-sweet clover, 6-7c per lb.; mixed flowers, small pails, 7½c per lb

Intermountain Region—With much of the crop sold, the movement of honey has been less during the past two or three weeks than earlier in the season. Considerable inquiry is still reported for both honey and beeswax, however, although the demand is lighter. Remaining lots are generally in strong hands. Some beekeepers are now already buying from others to take care of their customers. Comb honey is in extremely light supply. Carlot sales of white to water white sweet clover-alfalfa reported at 5⅞c, 6¼c, and 6½c per lb., with one car white, 5.4 per lb.; one car mixed grades, 6½c per lb.; less carlots, water white, 6-6½c per lb.; white to extra white, 5½-6c, with some uncased at 6c; 60s, 6-8c, small pails, 7¼-9c; few, 10c; light amber, one large car, 5½c per lb.; extra light amber, ton lots, 5¼-5½c per lb. White bulk comb has brought 9-9½c per lb. Few sales No. 1 and fancy white comb, $2.75-3.25 per case; choice, $2.60-2.75. Beeswax, 18-21c; choice yellow, 23c per lb.

Arizona: Temperatures have been slightly below normal for this time of the year, with freezing reported early in the month south to southeastern Arizona. Although bees are still bringing in pollen, scale colonies are losing weight. The honey market is quiet. Few sales light amber to extra light amber alfalfa reported in the Salt River Valley at $6.25-6.35 per case of 120 pounds, with most honey being held for higher prices.

Southwestern States: South Central and Southwestern Texas—Bees continued to work during the early portion of this period, until the first frost killed most remaining plants. Up to that time bees were working on tievine and broomweed. Colonies are still feeling the effects of poison on cotton plants, which destroyed some of the bees. Bees are going into

winter with large amounts of stores and a fine supply of worker bees. The honey plants are in excellent condition and fall rains have made a better than normal season in the soil. Extracted honey has sold in small pails at 7-8c per lb.; bulk comb mesquite and cotton, 10c per lb.

Plains Area: Red River Valley of Minnesota and North Dakota: Sub-zero weather has caused beekeepers who winter in cellars to move their hives in. Colonies wintered outdoors were protected for the most part before the extreme cold weather. Little rain fell before the freezing of the soil and the moisture deficiency is rather serious in its effect on honey plants, lessening the outlook for next season. Colonies went into winter quarters in fairly good condition from the standpoint of young bees and food stores. Seven car lots white sweet clover, 5½c per lb. with cans and cases returned, ton lots, 7½c per lb.; small pails, 9½c per lb. Light-colored beeswax, 21½c per lb.

East Central and North Central States: Michigan—The weather has been colder than normal, with some rain, but beekeepers have managed to get most of their bees fed and packed for winter. Most colonies had sufficient stores, however, and did not require any feeding. Most colonies also have an abundance of young bees. Although little honey remains unsold the market appears to be a little weaker, with many beekeepers endeavoring to dispose of their honey. Comb honey is very scarce. Sales reported ton lots or more, white extracted, 6⅔-7½c, few 8c, including one car at 7c per lb.; small pails, 9-10c; extra light amber, large lot, 6½c per lb. Comb honey has moved at $2.50-3.50; light-colored beeswax, 24-25c per lb.

Summary—Extremely cold weather, with subnormal temperatures carrying the thermometer below zero, from upper Minnesota west to Montana, have alternated with mild weather during which bees were able to fly during a portion of

(Continued on page 756.)

MONTHLY REPORT OF HONEY PRODUCERS

Early in November we sent the following questions to honey producers: 1. What per cent of the honey produced in your locality has already left the hands of the producers? Give answer in per cent. 2. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per lb.? (b) comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey fancy and No. 1, per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 6. What is the condition of colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent. 7. How does the number of colonies to be wintered in your locality compare with that of last year? Give answer in per cent. 8. What is the present condition of honey plants in your locality as compared with the average? Give answer in per cent. The answers returned are tabulated as follows:

State. Name.	Pct. sold.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	To retailers. Ex.	To retailers. Comb.	Move-ment.	Cond. of colo.	Pct. colo. wint.	Cond. honey plants.
B. C. (A. W. Finlay)	..	.10	..	.75	..	.90	..	Fair	100	100	100
S. Calif. (L. L. Andrews)	95	..	..	..	..	.59	.15	Fair	80	80	70
S. Calif. (Geo. Larinan)	90	..	..	..	..	..	..	Fair	75	100	100
C-Calif. (Davis Bros.)	..	.06	..	.43	..	.55	.20	Slow	..	110	100
SE-Colo. (O. E. Adcock)	30	.06	..	.43	3.50	.52	.20	Fair	100	100	100
E-Conn. (A. Latham)	..	..	..	.75	4.75	1.00	.28	Good	90	100	100
S-Fla. (C. C. Cook)	40	.06	..	.40	..	.55	..	Fair	..	90	100
C-Fla. (H. Hewitt)	75	..	..	.55	..	.65	..	Fair	100	110	100
SE-Ga. (J. J. Wilder)	70	.06½	..	.50	..	.65	..	Fair	100	100	100
NC-Ind. (T. C. Johnson)	50	..	..	.50	3.60	.60	.19	Fair	100	90	100
NW-Ind. (E. S. Miller)	15	..	..	.50	3.60	.65	.20	Fair	100	100	100
W-Iowa. (E. G. Brown)	95	..	..	.54	..	.65	..	Rapid	100	100	0
S-La. (E. C. Davis)	90	.06½	..	.40	..	.55	..	Fair	100	100	100
N-Me. (O. B. Griffin)	33	..	..	..	5.00	..	.28	Fair	85	110	95
N-Mich. (I. D. Bartlett)	60	..	..	.55	3.50	.65	.20	Fair	90	90	100
C-Mich. (E. D. Townsend)	80	.08	..	..	..	..	..	Fair	100	90	75
W-Minn. (B. L. Morehouse)	30	.07	..	.55	..	.75	..	Fair	110	100	90
C-Neb. (J. H. Wagner)	..	..	..	.63	3.60	.69	.20	Slow	90	90	70
W-Nev. (Mrs. E. G. Norton)	..	.05½	..	..	..	..	..	Fair	100	..	..
W-Nev. (G. G. Schweis)	..	.05¾	3.00	.40	3.50	.50	.20	Fair	100	110	100
W-N. M. (C. A. Baltzley)	75	.05¼	2.40	.45	3.10	.60	.20	Rapid	80	90	..
W-N. Y. (Adams & Myers)	..	.07½	..	.55	4.00	.75	.25	Fair	90	75	75
NW-N. Y. (G. B. Howe)	75	..	..	.50	4.00	.60	.25	Fair	100	100	90
C-N. Y. (F. W. Lesser)	..	.07¾	3.75	.50	..	..	..	Fair	110	110	90
C-N. Y. (N. L. Stevens)	75	.08	..	.45	..	.60	..	Slow	100	95	90
N-Ohio. (J. F. Moore)	80	.07½	..	.50	3.60	.75	.18	Fair	100	100	80
C-Ohio. (R. D. Hiatt)	75	..	..	.57	4.00	.75	.22	Rapid	100	90	90
NC-Okla. (C. F. Stiles)	75	..	..	.45	..	.65	.18	Fair	90	80	90
C-Okla. (C. A. Baltzley)	90	.05½	2.40	.45	3.75	.63	.20	Rapid	80	70	..
W-Ore. (H. A. Scullen)	50	..	..	.40	..	.55	..	Good	80	100	100
C-Pa. (H. Beaver)	10	.07½	..	.50	3.10	.65	.16	Rapid	90	80	95
SE-Pa. (D. C. Gilham)	12	..	4.00	.70	4.25	1.00	.25	Fair	100	100	100
SE-Pa. (H. B. Kirk)	..	.09	..	.65	3.75	.78	.20	Fair	100	75	95
W-S. C. (E. S. Prevost)	..	..	..	..	..	.20	..	Fair	80	100	100
C-Tenn. (J. M. Buchanan)	75	..	..	..	..	.75	.25	Fair	80	95	75
E-Tenn. (W. L. Walling)	75	..	..	.75	..	1.00	..	Fair	90	100	75
S-Texas. (H. B. Parks)	50	..	..	.35	..	.47	..	Fair	100	100	110
S-Va. (T. C. Asher)	..	..	..	.55	3.50	.70	.18	Fair	95	100	95
C-Wash. (G. W. B. Saxton)	5	.06¾	..	.43	..	.50	..	Fair	100	100	100
N-W. Va. (W. C. Griffith)	..	..	..	..	..	.70	.20	Slow	80	50	100
SE-Wis. (N. E. France)	80	..	..	..	..	.55	.15	Fair	90	75	50
N-Wyo. (E. C. Reed)	..	..	..	.50	..	.60	..	Fair	75	50	10

XUM

Walter T. Kelley.

Early Order Discounts

Right Now Is the Time to Buy Your Supplies at the Year's Lowest Prices

OUR MATERIAL—We manufacture our beehives of clear soft white pine (beehive pine) free from knots, splits and other defects.
OUR QUALITY—We manufacture only bee supplies, employing men of long experience in their manufacture. We use special built, electrified, high speed beehive machines that turn out our parts rapidly and perfectly.

OUR PRICES—We publish our own catalogue and set our own low prices. Our prices are always money saving prices.

BEE COMB FOUNDATION, TOO—We also manufacture bee comb foundation. We will either work your wax into foundation or will sell it to you from stock. We use the latest and most improved machines and processes in our wax manufacture.

(Send us a list of your needs and see what a tremendous saving you can make by buying at this season.)

Walter T. Kelley Co., Paducah, Kentucky

"BETTER-BRED QUEENS" **PACKAGES Young Bees**

Honest weight, three-banded Italians. Be wise and book your orders early for 1937. Orders booked without deposit. Trade Agreement Prices. **CALVERT APIARIES, CALVERT, ALABAMA**

Orders Are Coming In

Yes, Beekeepers are placing their orders for Root Bee Supplies because they know they get full value for every dollar,—and they save.

Yes, The orders range all the way from a few hives, frames or foundation to 500 hive bodies, 10,000 frames, etc., indicating we meet all competition.

WRITE FOR QUANTITY PRICES

Root Saves You Money

That is Why the Majority Buy Their Seasons Needs from Us.

Root QUALITY BEE SUPPLIES

The A. I. Root Co., Medina, O.

OVERBEY APIARIES

BUNKIE, LA.

"The House That Service Built"

Do We Save You Money?

A Trial Order Will Convince You.

• • •

Standard One-Story Dovetailed Hives with Frames

5—10-frame metal covered hives with inner covers	$8.50
5—10-frame excelsior covered hives	7.00
5—10 fr. shallow supers, 5 11/16 inches deep, with frames	3.25
5—10-frame full depth supers with frames	4.25
5—Excelsior covers or bottoms	2.25
5—Standard metal roof covers with inner covers	4.00
Standard Hoffman Frames, per 100	3.00

Special equipment cut to order—reasonably priced.

All supplies cut from high grade cypress lumber.

These are a few of the low priced, first quality supplies. Discounts on large orders. Compare our quality and prices, then place your order. Send for our 1937 price sheet.

• • •

Package Bees and Italian Queens

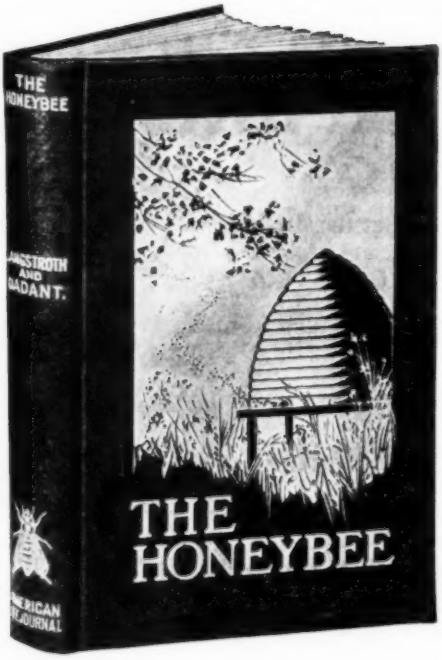
We have prepared to give you better service and better quality for 1937. Book your order now for spring delivery. No deposit required.

Untested queens, any number	$0.75 each
Tested queens, any number	1.50 each
2-lb. package bees, with queen, by express	$2.45 any number
3-lb. package bees, with queen, by express	3.15 any number

Queenless packages—deduct the price of queens.
For additional pound of bees, add 70c.

15% discount to recognized dealers buying in quantity lots for resale only.

XUM



Here's the Christmas Gift for a Beekeeper

Books He Will Enjoy Reading and Cherish

THE HONEYBEE A Complete Text on Beekeeping

Result-producing facts from seventy years of beekeeping experience. The twenty-third edition of Langstroth's work on beekeeping revised by both Charles and C. P. Dadant—all successful beekeepers of life-long experience. It is the standard text on bees in many schools and will be found in all libraries.

Covers fully the life of the colony, the bee and its organs, how bees live, comb building, gathering and use of propolis, beekeeping equipment, how to handle bees, swarming and its control, queen rearing, requeening, races of bees, shipping queens, feeding bees, wintering in cellar and outdoors, robbing, care of bees in spring, bee pasturage, production of comb and extracted honey, marketing honey, bee diseases, uses of honey and wax. 450 pages, cloth bound, over 200 pictures. **Price, postpaid, $2.00.**

AMERICAN HONEY PLANTS NEW EDITION By Frank C. Pellett

The very latest information about this important side of beekeeping. Many added pages, entirely new facts and new pictures. Beautifully bound in a fabrikoid cover; makes a splendid addition to the beekeeping library.

This is the original and most exhaustive study of honey and pollen sources in America; all the facts obtained from first-hand information on the spot, so that it is entirely reliable and gives beekeepers guidance in the selection of locations and in the estimation of the value of different sources. 200 illustrations, 400 pages. **Price, postpaid, $3.00.**

THE DADANT SYSTEM OF BEEKEEPING NEW EDITION By C. P. Dadant

Brought up to date. How bees are managed in the big hive. A year round practical description of keeping bees in the larger hive. In either English, French, Italian, or Spanish—118 pages, 60 pictures, cloth bound. **Price, $1.00 postpaid. In French with paper cover, 50c.**

OUTAPIARIES NEW EDITION By M. G. Dadant

Second edition, revised. Sixteen new pages. Covers equipment, management and location. Helpful hints that lead to money-making. 116 pages, 67 pictures. **Price, $1.00 postpaid.**

Cards with your name will be included at your request with any order given as a Christmas present to your beekeeping friends.

AMERICAN BEE JOURNAL

A full year of help with your bees. Start your subscription with the January number. Add 50 cents to the price of any book for one full year's subscription to American Bee Journal. Keep right up in the front row—make the American Bee Journal your guide. Subscription price, **without book:** One year, $1.00; two years, $1.50; three years, $2.00. Add 25 sents for foreign.

For Books or Subscriptions, address

AMERICAN BEE JOURNAL :: HAMILTON, ILLINOIS

Vol. 64
No. 12

Gleanings in Bee Culture

December
1936

If You Have a Sweet Tooth---

MRS. BENJAMIN NIELSEN

Good Eating Is to Christmas What Honey Is to Pancakes!

Long before we have decided just what kind of stuffing shall plump our gobbler the kitchen is fragrant with the preparation of the traditional sweets. Honeyway sweets may be made well in advance of the holidays and no need to worry about anything becoming stale. On the contrary, each dish actually improves in goodness and flavor with no hint of staleness.

Fruit cakes should be in the making right now, for, aside from the proper use of good ingredients, nothing so adds to the goodness of this hodiday goodie as does a long, slow aging period.

Perfect Fruit Cake

Assemble 1¼ cups brown sugar, ½ pound shortening, 1¼ cups flour, ½ cup honey, ½ cup molasses, ½ pound citron, finely sliced, ½ pound figs, chopped, juice of 2 oranges, 1½ pounds dried currants, 2 pounds raisins, ½ cup plum jelly, ½ cup candied orange and lemon peel, ½ pound nut meats, mixed, 6 eggs, 1 teaspoon soda, ½ teaspoon each of cinnamon, nutmeg and cloves, ½ teaspoon salt and ½ cup flour for dredging the fruits.

Cream shortening and add sugar gradually. Beat until light; add beaten egg yolks, honey and molasses. Stir in flour, which has been sifted together with the salt, soda and spices. Next add cleaned fruit (dredged) and the chopped nuts. Mix thoroughly and fold in stiffly beaten egg whites. Fill well greased molds two-thirds full, arranging any desired decorations on top and adjust covers tightly. Steam in a hot water bath for three hours. Then bake in a slow oven for one hour. Remove covers and allow to remain uncovered over night before storing away to ripen.

Unbaked fruit cake.

Coffee cans, one or three pound size, make excellent molds. Given a coat of bright enamel, after the cooking process, the container may be used as a cannister when contents

are removed and both cake and container make an unusual and very acceptable gift.

Unbaked Fruit Cake

Though it needs no cooking, this unbaked fruit cake should be made well in advance of the time at which it will be used. Honey and the aging period combine to produce a delightfully flavored product. For this you will need: Four tablespoons butter, ¾ cup honey, 1 cup grape juice, 1 cup orange juice, 1½ cups graham cracker crumbs, 2 cups ground rolled oats, 1½ pounds raisins, ½ pound dried currants, 1 pound dates, ¼ pound each of candied cherries and pineapple, ¼ pound finely sliced citron, 1 pound pecans, 4 whole cloves, 4 alspice berries, 2-inch stick cinnamon.

Simmer the fruit juices and spices for five minutes and strain. Add rolled oats and crumbs and cool. Stir in butter and honey mixing thoroughly. Let stand over night. Wash fruits thoroughly, add nutmeats and place on an absorbent cloth to remain over night. The next morning combine the two mixtures, blending thoroughly. Press mixture in a tube pan lined with heavy wax paper. Cover with wax paper and store in a tight container. Examine a few days before serving and if the cake seems dry it may be moistened by wrapping it in a cloth wrung out of grape juice.

We used our cake as a centerpiece for the Christmas table. The candles aren't real—red-striped stick candy, broken in convenient lengths and inserted in large red or green gumdrops and the ends of the cellophane wrapping perkily twisted to resemble a flame.

Delicious Fondant

Much of the hectic, last minute hustle and bustle may be eliminated by using honey in our candy making. There's no need for anxiety lest our sweets become hard and grainy for honey stays right on the job keeping our confections as deliciously fresh and good as the day they are made and actually improving the flavor.

Candies made from honey fondant.

If you have tried making fondant and have been disappointed in its taste and texture this recipe will prove a joy to you. Mix in a saucepan: two-thirds cup evaporated milk, 2 cups sugar, 1 tablespoon honey and ½ tablespoon butter. Cook, stirring occasionally until a few drops form a soft ball when dropped into cold water. Remove from heat. Pour on a platter which has been rinsed in cold water and cool at room temperature, without stirring, until the hand can be held comfortably on the bottom of the platter. Add 1½ teaspoons vanilla, and beat until thick. Knead until smooth. Let stand in a tightly covered container at least 24 hours before using.

From this basic recipe a variety of candies may be made. Remove pits from dates and fill the cavity with a small piece of fondant. Roll in granulated sugar or dip in chocolate. Mold fondant around a whole filbert, shape into a ball and roll in granulated sugar. Place a small piece of fondant between two whole pecans or English walnuts. Pineapple Drops are made by shaping fondant into balls or patties and pressing a small piece of candied pineapple on top. For Fruit Filled Bonbons, mold fondant around candied cherries, pineapple, etc.

Maraschino Cherries

Maraschino cherries may be used quite successfully with fondant if they are gently pressed and the juice well drained off. One may hesitate to use many of these if they must be purchased. However, they are very easily made. Use 3 pounds of pitted Royal Anne or Oxheart cherries (weigh after pitting), 2½ pounds sugar, ½ cup honey, ½ cup water, one ounce of almond flavoring and one ounce of red liquid coloring.

Soak the cherries in cold water for two hours; then pit, keeping as whole as possible.

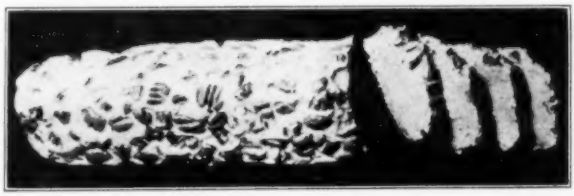
Combine sugar, honey and water and boil gently until the sugar and honey are blended. Then add the red coloring, the cherries and the flavoring. Cook slowly until the fruit is a deep, rich red. Seal in glasses, using paraffin.

If you would have a delicious confection, press the juice gently from honey maraschino cherries, drain well and wipe carefully. Mold fondant around each cherry and dip in chocolate. Use ordinary commercial milk chocolate or special cakes of dipping chocolate. Cut into small pieces and melt slowly in the top of a double boiler, over hot water. Do not place boiler on the fire. As the water cools, replace it with hot water. When the chocolate is entirely melted and smooth, cool until coating will set immediately on reaching the air. Drop in the fondant covered cherries, one at a time, and remove with a two-tined fork. Place on wax paper to harden. When chocolate becomes too cool, place over hot water.

Honey Pecan Rolls

Few of us can pass the window of a confectionery store without longing for some of that pecan roll so temptingly displayed. A honey pecan roll is a confection to be remembered and surely made again and again. Mix in a saucepan: one cup light brown sugar, 2 cups granulated sugar, ½ cup honey and 1 cup evaporated milk.

Cook slowly, stirring occasionally until a few drops form a soft ball when dropped into cold water. Remove from heat. Cool at room temperature, without stirring, until the hand can be held comfortably on the bottom of the pan. Beat until candy holds its shape. Turn on a board dusted with ½ cup powdered sugar. Knead until firm. Shape into long rolls, about 2 inches in diameter. Cover the outside with 1½ cups of broken pecans, pressing them into the surface. Wrap in waxed paper and put in a cool place to harden. When ready to serve cut in slices. The uncut portion of the roll may be kept indefinitely if left in the wax paper and stored in a cool place.



Honey pecan roll.

And may your Christmas be a happy, joyful one—with these it will surely be a "sweet" one!

Aurora, Nebraska.

A Top Entrance That's Different

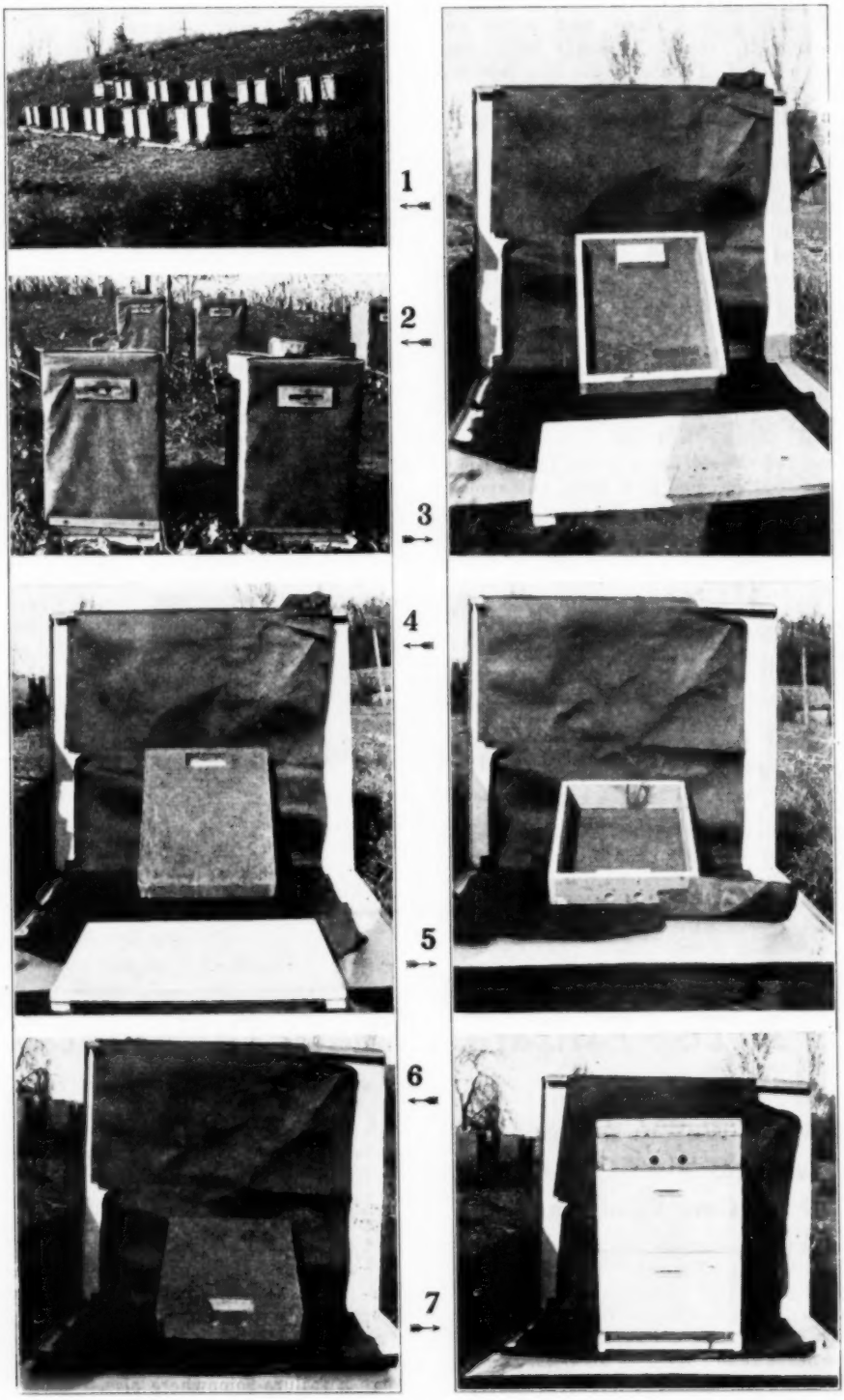
A. H. GATES

It Works Well in Eastern Washington--- 100 Per Cent Wintering

I have just read and re-read Government Bulletin No. 481, "Organization and Management of Apiaries Producing Extracted Honey, in the White Clover Region." It is very interesting to read how the other fellow handles his bees. In reading of the different methods used, I couldn't help but feel that some were giving beekeepers too much work, and others too little. My regular line of work calls for the elimination of every unnecessary motion. Perhaps that is why I am interested in details.

I have only a small number of colonies, twenty, but I try to manipulate them as though I depended upon bees for a living. It is true that locality makes a difference, and what works nicely in one place, may prove a failure somewhere else.

XUM


1
2
3
4
5
6
7

Our part of the state, the eastern portion of Washington, must not be confused with the coast region. Our climate is about the same as in the central states. Some of our winters are not severe, others are. We have had some winters in which the bees did not have a flight for four months. This past winter started with three days of zero weather the latter part of October. The bees did not have a flight from the latter part of December until the latter part of February. During that time we had at least seven days of —20°. One morning it was —30°. Usually when we have extremely cold weather, there is snow on the ground. This time we had eight or ten inches.

My Apiary Management

I am giving here my method of manipulation. It is largely a combination of other men's methods, with perhaps a few ideas of my own. I follow largely the Rauchfuss and Demuth methods. Photo No. 1 shows location of apiary. The location is not a matter of choice. It is on the east slope, inclining slightly to the North.

I requeen each year, unless the colony is an outstanding one. At the beginning of the honey flow, I take a comb of brood with adhering bees, with perhaps a few additional bees, and place it in a hive body just back of the colony. To these nuclei are given previously prepared ripe queen cells. At the same time I Demaree the colony. In the past when I tried to raise the queen in the colony, the colony would sometimes swarm out with the first young queen.

These nuclei are intended to supply the young queen, additional young bees, and winter stores. They are united with the parent colonies in the fall. These united colonies winter nicely out of doors, and show their strength all through the next season. They consume no more stores, up to brood rearing time, than weaker colonies. I have had these nuclei require supers before the end of the season.

Construction of Entrances

Photo No. 2 is a close-up view of two packed colonies. For each colony I use two ten-frame Langstroth hive bodies, and top entrance. I have seen top entrances similar, but not just exactly like these. This top entrance is a very cheap affair. Photos Nos. 3, 4, 5, and 6 will give an idea of how they are made. They are made of 1x4 material, with burlap stretched over the bottom. In front are two one-inch auger holes. Just back of these holes is a small box-like affair, 2x2x6, the purpose of which is to keep the packing material back from the entrance. Photo No. 3 is a top view of the top entrance, looking at it from the rear. It gives a good view of the box-like affair, designed to keep the entrance clear. No. 4 is a bottom view from the same position, showing the burlap, also showing how the burlap is cut out for the entrance box. The burlap should be tacked around the edges of these entrance boxes, just the same as around the edge of the whole top entrance. Nos. 5 and 6 are similar views, excepting that they are front instead of rear views. No. 7 shows the top entrance in place on a colony, with the bottom entrance closed.

Any suitable packing material may be used to fill the top entrances, such as dry leaves or chaff. I use dry leaves. Before placing the top entrance on the colonies, I place two short pieces of wood on top of the frames to afford a passageway for the bees over the frames.

In spite of the fact that we had a very hard winter last winter, and many colonies were lost, mine came through 100 per cent. When I unpacked them in the spring, I found the packing material wet and mouldy, but the combs were in fine condition.

We place the top entrances on the colonies, and close the bottom entrances about the first of October. The colonies are packed for winter, about the middle of October, using one thickness of tar paper. In the spring it is an easy matter to reverse the order. The entrances are changed March 15 and the colonies unpacked April 15. We have used the top entrance for the last three winters and have lost no bees.

The combination of methods I use produces some fine colonies. It is true that it requires an additional hive body, a top and bottom board, but that is a lot cheaper than cellars or packing cases. Besides I am thinking the colonies are in better condition in the spring.

Garfield, Washington.

[Mr. Gates' apiary management may have something to do with his successful wintering. At least, populous two-story colonies with ample stores are likely to winter better than smaller colonies, irrespective of the type of entrances and method of packing used.—Editor.]

XUM

Filtration of Honey

E. R. ROOT

Simple Methods That Small Bottlers Can Use

There are at least three methods by which honey may be clarified: First, by filtration; second, by gravity or sedimentation; and third, by a combination of the two.

The first method is to strain honey through two thicknesses of fine cheesecloth spread over a light framework mounted on a container, or, to fasten the strainer cloths over a honey tank. The cloths, in either case, should bag down in the center to within a few inches of the bottom of the can, but should not touch the vertical sides for reasons that will be explained later. (See Fig. 4.)

Still another plan is that of supporting the strainer cloths on an inverted cone of coarse-mesh wire cloth, as shown in Figs. 1 and 3. The cone is held by lugs hooking over the side. This has the merit that when the strainer cloths are clogged with sediment they can be easily removed and clean ones put in their place.

A hot or warm honey will pass more readily through cheesecloth, or a filter, than a cold honey. The same is true to a lesser extent of a relatively thin cold honey. Usually two thicknesses of wet cheesecloth are about right. Why wet? Because it will take some time for a honey, hot or cold, to pass though dry cloths. The cloths should first be immersed in water and then wrung nearly dry before attempting to pass honey through them.

It is important that the strainer cloths be renewed often as they will soon clog with sediment so that the honey has difficulty in passing through. It is a simple matter to wash them in hot or warm water, when they can be used again. Frequently renewing with fresh cloths will greatly facilitate the process of straining honey.

It is very important also that as the honey passes through the strainer, it should not fall in little streams a distance of several inches through air space because in so doing these little streams will carry down with them thousands of minute air bubbles into the body of the honey.

It is these same air bubbles that make the honey look cloudy when put in bottles. It is very important, therefore, in running the honey through strainers in the manner described that the streams of honey either fall on an inclined plane, or are caught on a funnel just under the strainer where the cloths rest on an inverted cone of coarse wire cloth, as shown in Figs. 1 and 3. The diagram next page Fig. 3, will show how this should be accomplished. The funnel should be separated from it in the hook-up by about an inch, or close enough so that the honey as it oozes through the strainer cloths will not gather air in its downward fall. The funnel catches the honey when it flows by gravity over a smooth surface into the spout of the funnel and this spout should be on a slant and long enough to extend down into the honey near the bottom of the tank. The strainings will cling to the spout and finally pass into the strained honey below without carrying air bubbles large and small. The coarse-mesh wire cloth funnel should be detachable and separate from the funnel of solid metal. The latter should be hooked on first over the top of the tank, as shown in Fig. 3. On top of this and an inch above it should be set the coarse-mesh wire funnel and over this the several thicknesses of cheesecloth. The number of thicknesses

Fig 1.—A honey straining outfit for the larger beekeepers.

should be adjusted to the temperature of the honey and its density.

Strainer for a Small Beekeeper

A much simpler strainer for the amateur, or small beekeeper, can be made of a large size second-hand lard can and several large squares of cheesecloth. Into the bottom of the can should be soldered a honey gate. The squares of cheesecloth, two or three thicknesses, should be large enough when spread over the top of the can to push down to within two or three inches of the bottom of the can, leaving a clear space between the bag and the sides of the can. When properly adjusted, clothespins pushed over the top of the cloths and the top rim of the can will hold the strainer in place.

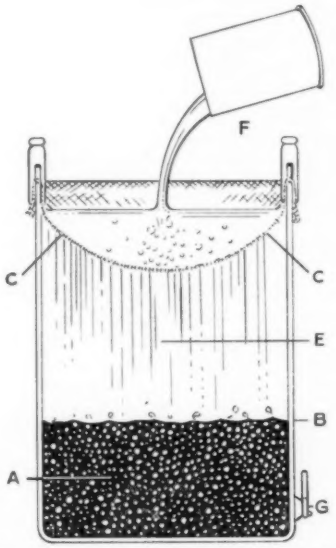


Fig. 2.—The wrong method of straining honey.

This cheaper outfit, Fig. 4, like the other in Fig. 3, avoids having small streams of honey from the strainer fall a distance through air space, carrying with it air bubbles into the strained honey. A separate funnel is not needed because the relatively deep bag of cheesecloth extends down into the strained honey. The honey on the sides of the bag will ooze through the strainer cloth and flow down into the honey that has already been strained without carrying down bubbles of air.

But it should be carefully understood that this strainer will not work if the honey that has gone through the strainer is equal in height or level with the honey in the bag not yet strained. The pressure will be equal on both sides and, of course, the filter can not work until the filtered honey has been drawn down through the honey gate to the point F, or below, in Fig. 4. One can, if necessary, draw off the honey into bottles as fast as the strained honey oozes through the sides of the filter bag; but remember this, don't let the filtered honey rise above or below F in Fig 4.

Honey Should be Hot to Filter Well

While cold honey may in time pass through either one of the strainers just described, a warm, or better, a hot honey (not hotter than 160° F.) will go through much more rapidly.

Filtration by Gravity or Sedimentation

The basic principle of this method is that air bubbles, large and small, pieces of comb, and particles of foreign matter, are lighter than the honey itself and if the honey, after being extracted, is run into relatively tall tanks and allowed to stand in a warm room for several days, or perhaps weeks (depending on temperature), the air bubbles and foreign matter will rise to the top in the form of scum when it can be skimmed off. During summer, especially during July and August, sunlight from several windows will make a closed room warm enough for sedimentation. The honey below the surface, especially that near the bottom of the tanks, should be relatively clear, when it will be ready for market.

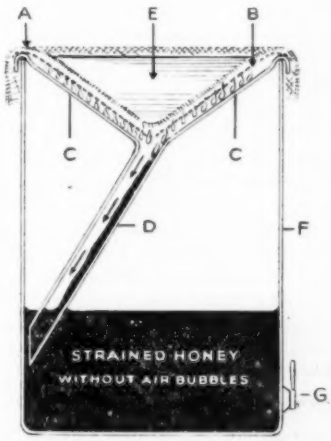


Fig. 3.—The right method of straining honey.

XUM

The process of sedimentation can be greatly hastened by heating the honey to about 130°. But here is both a difficulty and a danger. The cost of heating the honey in a tank by means of coils submerged in the honey and through which hot water is made to pass, is considerable.

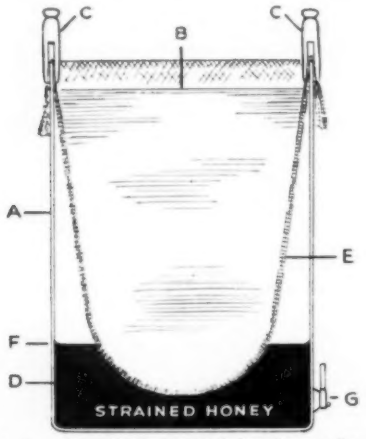


Fig. 4.—A method of straining honey for the small beekeeper.

The danger is in overheating and heating the honey unequally and in impairing both the color and the flavor. If care is taken, however, there will be no damage to the honey.

Plan No. 3, a combination of No. 1, straining through cheesecloth, and No. 2, sedimentation, obviously is to be preferred to either one alone. When the honey is warm just from the extractor, it should be passed through a filter, or cheesecloth, before being pumped into storage tanks, by either of the two methods shown in Figs. 3 and 4, to remove the coarse foreign matter. There will then be left small particles of foreign matter and some small air bubbles that cause cloudiness in the honey. These should be removed as far as possible by plan No. 2, or the gravity method already explained.

Removing Cloudiness in Bottled Honey

After honey has been clarified by any, or a combination of, the methods just given, it may still show some cloudiness after being put in bottles. This slightly milky color, if present, as has been explained, is due to very minute air bubbles not yet removed by straining through cheesecloth or by sedimentation. Perhaps the honey was too cold or not kept long

A honey gate with a V-shaped lip to regulate the size of streams.

enough in the gravity tanks to remove the bubbles. This cloudiness can be removed by placing the bottles with the caps loosely screwed down out in the hot sun for several days. The cloudiness will gradually rise and finally disappear. In mid-summer with plenty of hot sun to warm up the bottles, the bubbles will quickly rise to the surface and disappear. The caps should then be screwed down.

If the weather is cold with little or no sun, a hot room of about 100° F. will do nearly as well. Honey in bottles stacked around a hot stove or over a furnace register for several days will clear up in the same way. If later on this honey should show granulation, the bottles can be put in trays in water heated to 160° F. and kept there until the granulation disappears. This method of restoring the

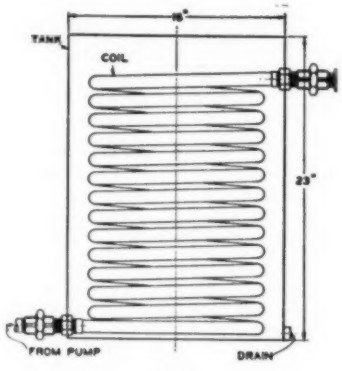


FIG. 4

Fig. 5.—Hot water coil for heating honey in a tank.

honey to a liquid condition is practicable only for the small beekeeper who desires to give his customer a liquid honey.

It is always a mistake to leave honey that has begun to show granulation on the grocery shelves. The prospective buyer sees it and concludes that the "stuff" is "going back to sugar," and does not purchase. The local producer can easily correct this by the plan just outlined.

Diminishing Bee Pastures

J. E. ECKERT

J. E. Eckert.
Asst. Prof. of Apiculture, Univ. of Calif.

The Cultivation of Nectar and Pollen Plants Should be Encouraged to Increase Bee Pasture

Successive seasons of drouth in many of the agricultural sections of the United States has resulted in temporarily or permanently reducing the available bee pastures for many thousands of colonies. It has resulted in a greatly reduced yield of honey throughout the entire United States and a depletion of practically all honey reserves that naturally accumulate during normal seasons. The constantly increasing use of poisonous dusts and sprays in the control of injurious insects has resulted not only in a serious decimation of colonies in the fruit and vegetable growing sections—with an attendant loss of crop—but also in a further reduction in available bee pastures. Recent developments in the use of arsenicals, oils, and acids in the control of weeds—although highly beneficial to agriculture in general—is causing considerable apprehension to beekeepers throughout the entire country. The improvement in farm machinery may be given as an additional factor in reducing bee forage through clean and intensive cultivation.

These conditions are resulting in crowding and overstocking in the more favored locations and in the practical elimination of the side-line beekeeper in many agricultural sections. The beekeeping industry is gradually but surely going into the hands of specialists with equipment, money, and talent enough to meet sudden emergencies such as drouth, fire, and chemical poisoning. Even many of the specialists are now finding it extremely difficult to cope with the various emergencies and are searching eagerly for a solution of their difficulties.

Chemical Poisoning

Most plants have from one to many insect enemies that threaten either the existence of the plant or the production of quality fruit, vegetables, or seeds. Increased acreages of crops grown, successive plantings of the same crop, lack of rotation, inefficient methods of insect pest control, and truck movements of fruit have enabled many of the more economic pests to build up great populations in spite of the tons of arsenicals and other poisons used in control measures. Large plantings have also opened the way for the formation of numerous companies to engage in pest control work. Theoretically, commercial applicators with special equipment suited for large scale operation should do more efficient work in less time with a saving to the grower in expense of application of poisons than the individual grower can do for himself. This is true in some instances but not in others. High pressure applications of liquid sprays and highly powered dusters not only tend to hasten the speed of application, but also to reduce thereby the chances of applying the poisons where they will do the most good. The commercial applicators usually understand their equipment but are often lacking in an adequate knowledge of the nature of the poisons they apply and of the insects they are supposed to control.

The use of airplanes in applying poisonous dusts is one example of where commercial applicators are selling their services to growers in broadcasting poisons

XUM

—generally in dust form—over practically every kind of cultivated crop on the assumption that they can do it cheaper and more efficiently than the grower. This industry is not exactly new but there are many new and inexperienced applicators in the field and the number of applicators are increasing rapidly. In one county in California 17 pilots and operators were licensed this year to engage in pest control work. There may be a greater number in other counties.

Weed Control

This is slowly but surely being commercialized and as in the practice of applying poisons by airplane to control insects, it is conceivable this commercial expansion will develop faster than careful research methods which should pave the way. The result will be economic waste, to say the least. Present recommendations for weed control are usually based on the application of a dilute sulphuric acid, arsenic solution or oil spray to weeds in their early stage of development—before the blooming period. Without discussing the merits or demerits of this practice, it is evident that the control of certain weeds—such as the star thistle, for instance, or of sweet clover along the highway and ditch banks—will influence materially the available pasture for bees. If the weeds are controlled during their blooming periods, agriculture will suffer a distinct setback in fruit and seed producing areas through the destruction of insect pollenizers, including the honeybee.

Dusting by Airplane

Airplane dusting, if permitted to continue with no more regulation or supervision than at present, will ultimately drive the beekeeping industry out of every area in which the arsenates, fluosilicates, and nico-dusts are used. Close observations have indicated that it is physically impossible to broadcast poisonous dusts by airplane without causing a large portion of the total amount applied to drift with the wind for considerable distances from the area over which the application is made. This drift usually is so strong as to partially obscure trees and other vegetation at distances of one and one-half to three miles, depending upon the temperature and velocity of air movements. This poison settles down over the vegetation as it travels along, often in sufficient quantities to kill or injure livestock, and to cause irreparable damage to bees feeding in the area covered by the drifting poisons. German authorities report the danger zone for beekeepers as being a radius of six miles from the point over which calcium is applied by airplane. Since bees fly from one and one-half to two miles on the average, this estimate coincides fairly well with the writer's observations.

Now, what can this promiscuous broadcasting of poisons by airplane mean to the beekeeping industry? to the cattle industry? to public health in general? What regulatory and supervisory powers must be used to protect these industries from this unethical practice in diversified agricultural areas and adequately to protect public health in resident areas adjacent to fields thus treated? When a commercial applicator can apply 6000 to 8000 pounds of calcium arsenate to a 400-acre field on each of two or three occasions the same season in such a manner that 50 per cent of the poison drifts over adjacent territory, regardless of whether alfalfa fields, pastures, gardens, fruit trees, or residential areas are in the path of the drifting poisons, it is evident that the practice is one of general interest.

Specific Effects of Chemical Poisoning on an Apiary

When bees work on plants covered by poisonous sprays or dusts, the nectar gatherers are killed in the field if they gather any poisoned nectar. This prevents any possibility of the poisoned nectar being stored in the combs. It also causes a very sudden reduction of the working force and an immediate decimation of the colony strength. The pollen bearers pack the pollen as usual back to their hives. If the pollen is covered with poisonous dusts, it forms a source of poisoning for the nurse bees and the young developing bees or larvae. Some times the field force and the nurse bees are killed off so quickly that the larvae die from neglect and starvation. The nurse bees leave the hive as soon as they feel the effects of poisoning and can be found hopping or crawling around on the ground in front of and for some distance away from the hive. Colony strength may drop down from 20 to 30 frames of bees to 3 or 5 frames within a few days' time. The decimation of the colony continues as long as the bees have access to the poisoned pollen in the combs or to the poisoned plants in the field. The final result being a loss of the honey crop

as well as a serious reduction in colony strength if not the extinction of colonies thus affected.

But the loss does not end with the loss of the honey crop or with the death of the colony. The combs must be soaked in water for 24 to 48 hours, and then dried to remove the poisoned pollen. This soaking process is destructive to the frames and combs, and many of them have to be destroyed. The combs can not be used to develop other colonies without first removing the poisoned pollen. The pollen in combs swells on soaking and then shrinks on drying and will be removed by the bees without much noticeable effect on the brood. Nuclei especially are very susceptible to effects of chemical poisoning.

What Is the Remedy?

Beekeepers realize the danger of spray poisoning when fruit trees or cantaloupes are dusted or sprayed with arsenicals, for bees work on these plants, and they will move their bees from the danger zone if notified in advance. Fruit growers and melon growers in particular generally realize they profit many times more by the activities of the bees as pollenizers than the beekeeper does by having his bees work on the blossoms and the intelligent grower will gladly co-operate with the beekeeper in preventing the destruction of the bees. But when a grower or commercial applicator applies poisonous dusts in such a manner as to cause the poison to drift over large areas outside the field treated, the beekeeper, livestock man, and general public have a right to be protected from the destructive effective effects of the drifting poisons by demanding that the poisons be confined to the fields treated.

Soil Conservation

One bright ray of hope for the beekeeper in the above dark picture is the Soil Conservation program. Farmers throughout the nation are being encouraged to take marginal land out of production and to plant soil-building instead of soil-depleting crops. Deep rooted crops, such as sweet clover, Burnett, and alfalfa are being experimented with and used extensively in this work. Sweet clover is very favorably reported as a substitute crop on marginal land and in lieu of summer fallowing in northern Idaho and in other locations where this crop can be grown without irrigation. Burnett is a new crop to most of us, but, according to observations we have made at the University Farm, Davis, it is a very heavy pollen producer. It is especially adapted to the deep hill soils of the coastal ranges and, conceivably, might fill a very important need of the southern California beekeeper for a pollen plant of major importance. At Davis it yielded pollen abundantly during early morning and late afternoon and was so covered with bees as to make the field resound with their busy hum. It is a prolific bloomer and the bees gather large loads of pollen from it. Several counts of bees working on this plant revealed only pollen bearers, and no bees engaged in gathering nectar. Honey locust is being planted in many sections of the country to prevent soil erosion and to aid in checking the driving winds laden with dust. All these plantings should be encouraged by the bee industry and can be extended to advantage by individual and community effort.

Davis, California.

Saskatchewan Honey Production

The largest honey crop every harvested in Saskatchewan, Canada, was secured during the past summer. Returns indicate a production two and a half times larger than any previous year. We have a number of records of single colonies producing well over 500 pounds of honey. Honey production figures secured from the recent questionnaire are compared with 1935 below:

	1935.	1936.
Number of beekeepers	2,680	2,998
Number of colonies	14,079	17,062
Average production—pounds per colony	74.7	155.1
Comb honey produced, pounds	19,390	52,879
Extracted honey produced, pounds	1,031,971	2,583,396
Total	1,051,361	2,636,275
Total value	$117,685.66	$263,114.05

Honey Wins

Eight exhibits of Saskatchewan honey were forwarded to the Imperial Fruit Show, Liverpool, England, held from October 30 to November 7, 1936. Here they were entered in three classes and competed with honey from all parts of the British Empire. A major prize was secured in each of the three classes. First prize, 6 jars granulated honey, A. I. Smith, Regina; second prize, 6 jars liquid honey, J. G. Carr, Govan; second prize, 12 jars granulated honey, A. I. Smith, Regina.—R. M. Pugh, Regina, Sask.

XUM

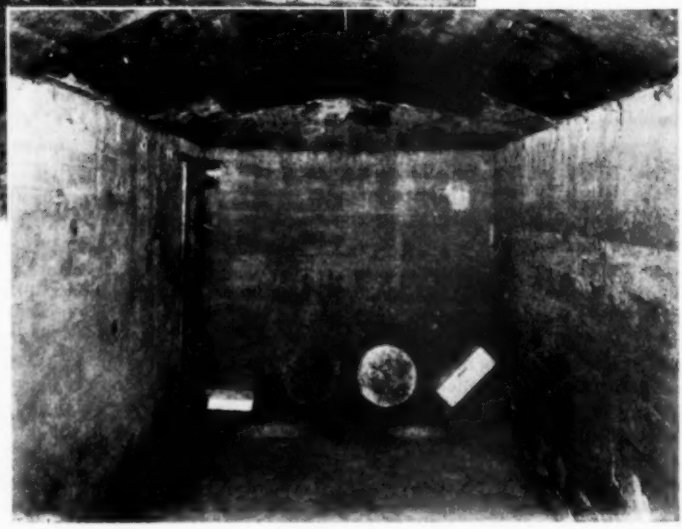
The Wisconsin Beekeepers' Association Has Splendid Meeting

One of the largest and best annual conventions ever held by the Wisconsin Beekeepers' Association was held at Fond du Lac, October 29 and 30. The following officers were elected for the ensuing year: A. J. Schultz, Ripon, President; Walter Diehnelt, Menomonee Falls, Vice-President; Mrs. Millie Francis, West Allis, Recording Secretary-Treasurer; H. J. Rahmlow, Madison, Corresponding Secretary. On the Executive Committee are the chairmen of four organized districts of the State Association: Edw. Hassinger, Greenville; F. J. Paepke, Burlington; N. E. France, Platteville; S. P. Elliott, Menomonie.

Prof. H. F. Wilson Honored

Prof. H. F. Wilson, Chief of the Entomology Department of the Wisconsin College of Agriculture, was presented with an honorary recognition certificate by the Wisconsin Beekeepers' Association at the annual banquet. Prof. Wilson was given this honor because of his valuable services to the beekeeping industry of Wisconsin and the nation in the field of research, teaching and extension. As a teacher he has helped to train college graduates who have carried on the work in other states for the federal government. In the field of research he has conducted and supervised experiments which have been of great value to beekeepers.

It was very fitting that N. E. France, of Platteville, probably the oldest bee inspector in the United States, and the first to be honored by the Wisconsin Association, should make the presentation address.—H. J. Rahmlow, Madison, Wis.



These are pictures of a bee cellar owned by E. A. Lund, Vining, Minn. Note the construction of interior of cellar, showing the tops of the two pits or cisterns that extend a few feet below the floor of cellar and usually contain some water. The pits are each connected with a 10-inch tile intake pipe, which is 9 inches below the floor of the cellar. The outside entrances of intake pipes, which are 50 feet away from pits, are seen in upper picture, also the front view of approach to entrance of bee cellar. The outlet pipe from interior of cellar is seen in upper left hand corner of cellar and this same outlet pipe is seen on the outside above the cellar in upper picture. The object of the 10-inch tile intake pipes is to furnish underground ventilation.

Ohio Field Meeting

E. R. ROOT

Association Meetings this Year Have Been Unusually Big, Which Looks Like a Good Omen

The annual Ohio field meets are always big bee events of the season. While the one this year did not have as large attendance as the Tri-State meeting at Newport, Indiana (see page 659, last issue), the enthusiasm was none the less.

For the success of this meeting great credit is due to modest Dr. W. E. Dunham, of the Extension Department of the Ohio State University, and likewise Secretary of the Ohio State Beekeepers' Association. He is shown at the extreme right in Fig. 6 and again in Fig. 9. Ohio is proud that it has so able a man for the exploitation of scientific bee culture. He is a university graduate, an entomologist, and carries the title of Ph. D., and best of all, has had experience as a commercial beekeeper in a large way in Vermont.

A summer meeting such as the one at Newport and at Delphos has the advantage over a winter convention in that tricks of the trade can actually be shown with the bees in a way that no printed page can explain. How to apply, for example, the carbolic acid treatment for removing bees from supers, was shown at both Newport and at Delphos. Demonstrations of this sort always attract a large group as was shown in Fig. 2, page 660, of our last issue, and Figs. 10 and 11, this issue. Another trick shown at Delphos was grafting queen cells. This is shown in Fig. 2, this issue. To see the exact method of lifting the delicate egg or larva from a worker cell to a queen cell explains better than a dozen printed pages could explain it.

There was another attraction at Delphos, as was also at Newport, and that is, the handshakes with those whose writings one had read. These social contacts give one an opportunity to ask questions.

The Ohio meeting was held at the home of Mrs. Fred Leininger. On her lawn was the big tent shown in Fig. 1 and in the rear of the home was the shop and the extracting room where extracting was going on.

The faces that were missing at Delphos were Mr. Fred Leininger and Mr. J. H. Allemier, the father of Mrs. Leininger. Both men passed away early this season, within a few weeks of each other.

Mr. Leininger is here shown as he appeared two years ago at a like convention. He was the leader in honey production in this section. He with J. H. Allemier were the pioneers in northwestern Ohio. Mr. Leininger was succeeded by his son and his wife who are still carrying on.

The late Fred Leininger and E. R. Root photographed as they were talking prices two years ago at the field meeting held at the home of Mr. Leininger.

Harry Lathrop, one of the pioneers of Wisconsin, gave an interesting account of his visit among beekeepers in England.

Clifford Muth explained the reaction of the public to honey.

Charles A. Reese gave the causes of winter losses. See page 665, last issue.

Our co-editor, Mr. Deyell, discussed selecting an out-apiary site.

Modern filtration of honey by the plan described by R. E. Lothrop, of the Bureau of Chemistry and Soils, was demonstrated

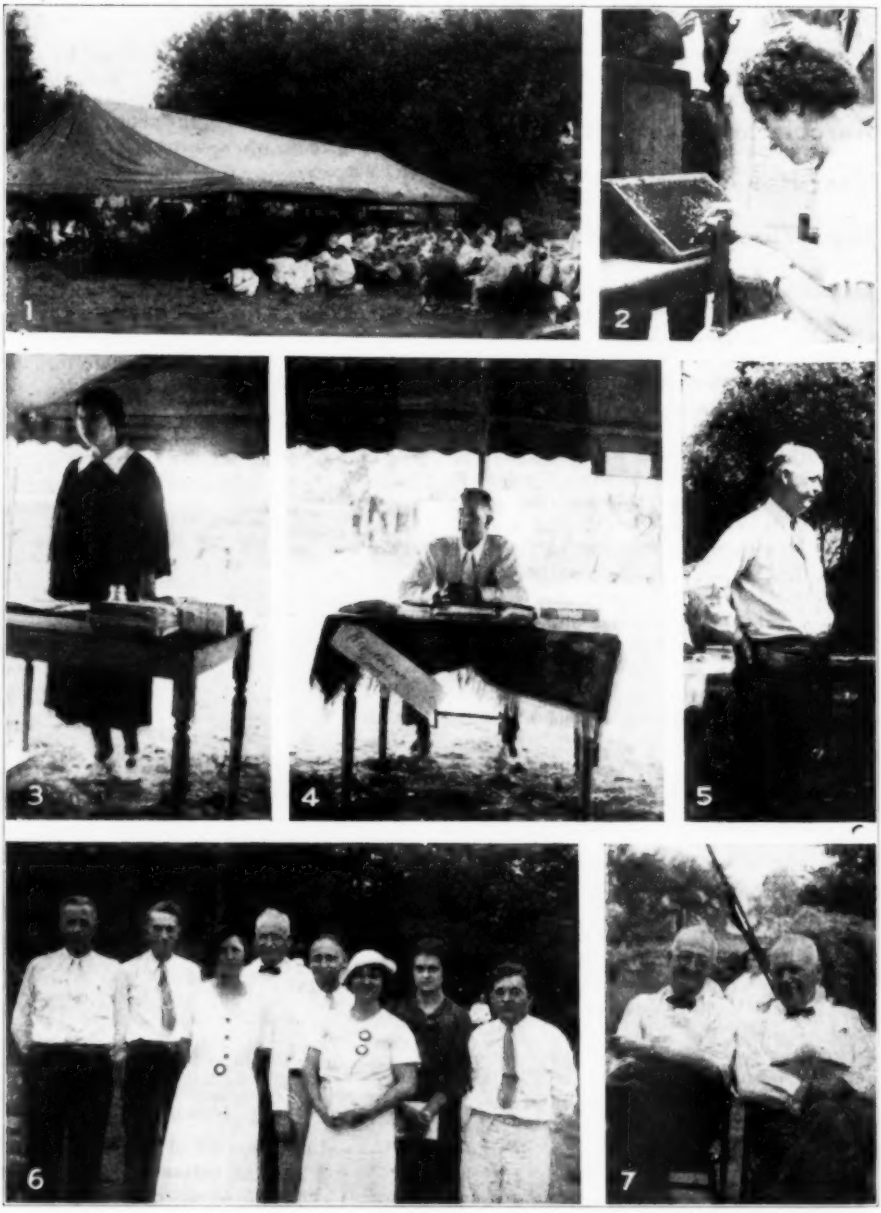


Fig. 1.—The big tent on the Leininger lawn just east of the house. It was so filled that half the audience were on the outside as will be seen. Fig. 2.—Mrs. Ruth Tucker, a daughter of J. H. Allemier, demonstrating the art of grafting cells for scientific queen rearing. Photo by Dr. Dunham. Fig. 3.—Miss Willah Goodman explaining the needs of the American Honey Institute. She gathered that day the largest number of pledges for the Institute that had ever been given at any previous meeting at Delphos and not a little cash. Fig. 4.—President W. A. Coulter, a former banker and now a beekeeper, presiding. He made one of the best presiding officers in the history of the Association. His introductories to each of the speakers were particularly apt and appropriate. He is now one of the leaders in the Ohio State Beekeepers' Association. Fig. 5—R. J. Porter, President of the Tri-County Beekeepers' Association and deputy bee inspector, is one of the leading beekeepers in northwestern Ohio. He is another who married one of the Allemier girls, all good beekeepers. Fig. 6—Reading from left to right: W. A. Coulter, President of the Ohio State Bee-

keepers' Association, State Inspector Chas. A. Reese, Mrs. Ernest Kohn, Dr. Ernest Kohn, toastmaster, Jas. E. Starkey, State Bee Inspector for Indiana, Mrs. Starkey, Mrs. W. E. Dunham and Dr. Dunham. Fig. 7.—Fred W. Muth and Dr. Ernest Kohn sitting just outside the tent and under a guy rope swapping lies. These two cronies, when they get to sparring, are as good as a three-ring circus at any bee convention. They exchanged left hand compliments at the convention.

Fig. 8.—A part of the Leininger apiary. Fig. 9.—Dr. W. E. Dunham inspecting colonies wintered over and those started from package bees at the apiary of Robert I. Porter. The first named secured the most honey. Figs. 10 and 11.—R. I. Porter demonstrating the carbolic acid method of removing bees from supers. Fig. 12.—Mr. Porter picking up his carbolic acid trays that are set over supers from which it is desired to remove the bees. Fig. 13—A section of the Leininger apiary.

by the Tri-Packers, Inc., on one of the side trips.

The banquet in the evening of the last day was held at one of the local churches. Following the eats, on account of the heat the crowd assembled at the tent on Mrs. Leininger's lawn. Dr. Ernest Kohn acted as toastmaster and a good one he was.

Finally, at the close Mr. and Mrs. E. R. Root, in recognition of years of service for the cause of beekeeping, were presented a pair of two-branch silver candelabra in a speech by President W. A. Coulter. These candelabra perfectly matched the silver service presented to the pair on a similar occasion at the International Congress at Valdosta, Ga., two years ago. Mr. Root responded by saying that he thought the beekeepers had been over generous in their estimate of their humble services.

A Confab

CONDUCTED BY THE EDITORS

In the preface of last month's "Confab," we said that discussion as to whether eggs are placed in queen cells by queens or worker bees would be discontinued for the present at least. Since then we have run on to an article appearing in the July, 1936, issue of The Bee World, edited by Anna D. Betts, Herts, England, entitled, "Do Bees Move Eggs?" written by the editor. This article is sufficiently interesting to be included in "Confab" and reads as follows:

Do Bees Move Eggs?

Allen Latham in June Gleanings, asks: "Whence Come Eggs in Cups?" and states that no one has ever seen a queen lay in a queen cup, nor a worker bee place an egg there with her mouth. He seems to regard it as most improbable that bees ever move eggs, except to destroy them.

We have been collecting notes about this matter for some time, and the results of our efforts may interest readers. Some good beekeepers, such as Ludwig and O. Dachsel in Germany and the late A. Alfonsus in Austria, agree with Mr. Latham. They think all supposed cases of bees moving eggs are due either to accidental transport of eggs in the bees' hair, or (in the case of queen cells in places where the queen can not go) to delay in hatching of the eggs or to eggs laid by workers.

On the other hand, there is some very good evidence to the contrary, and not all of it is explainable by any of the above sources of error. Daniel Wildman (1801) mentions "the first Mr. Wildman," who tethered a queen by a thread and found eggs in cells she could not reach; later, watching ,he saw the bees moving the eggs and putting them in the cells. (See B. B. J., 12.1.33). A. H. Pering saw a bee (twice) carry an egg, enter a cell with it, stay there a long time, and come out, leaving the egg on the cell bottom (A B. J., September, 1933). G. Sklenar, the noted breeder of the "47" strain, forgot a queen in a cage, and after a fortnight found a slab of brood in a comb alongside. Plenty of it was sealed, and it was worker brood. There were several witnesses. (See the Bee World, IV, p. 137). A similar case was noted in Germany (see The Bee World, XIII, p. 47) though not in circumstances of such definite proof. H. Robertson (Australasian Beekeeper, November, 1935; The Bee World, XVII, p. 14) had an old but prolific queen. She evidently disliked walking, for she laid on one frame only, and the bees carried her eggs to the others! He actually watched them taking the eggs. The Government Apiarist for Western Australia, H. Willoughby Lance, has seen cases which have convinced him that bees carry eggs (The Bee World, VIV, p. 128). R. G. Avery (Gleanings of April last), watching a queen in an observatory hive, saw her lay on sides, etc., of cells and once on a bee; he, too, saw the bees carry the eggs to cells. Finally Mackay (Scottish Beekeeper, May, 1936) is cited as having seen eggs in sections when a queen was caged above the super containing them.

It therefore appears certain that, on rare occasions—and generally when a very fertile queen is caged or otherwise prevented from laying normally in cells—bees do actually carry eggs, place them in worker cells and rear worker brood from them. A great many such cases, or supposed cases, however, are due either to the observing beekeeper failing to allow for laying workers (he does not wait to make sure that the eggs can be reared into females), or to delay, perhaps up to a week, in the hatching of eggs in a cool part of the combs. Anyone who thinks he has a case of true moving of eggs should eliminate these causes of error before writing to the papers about it.

Mr. Latham—in spite of his immense experience in all that concerns queens—appears to be wrong, too, when he says that no one has seen a queen lay in a queen cell. Dr. Caird did —(see the Bee World, XVI, p. 69). We may conclude that eggs usually get into the queen cells by the direct action of the queen in laying them there. She probably does this only when the neighborhood of the cell is warm—that is, when it is either covered with bees, or at least when the hive is closed and has not been disturbed—in other words, when we are not there to see! But there appears to be no good reason why, since bees are known to move eggs into worker cells and there rear them into worker bees, they should not, in an emergency, move eggs into queen cells and rear queens from them.

Whether bees ever steal eggs from another colony in order to rear a queen is another matter. On the face of it, it is unlikely. It is one thing to pick up a loose egg and carry it, in circumstances of peace and leisure, to a cell in the same hive; and quite another to enter a strange hive and detach an egg already stuck down in a cell; or to mingle with the queen's attendants and pass as one of them (in spite of being some days older) for long enough to "pinch" an egg and depart safely with it. This would call for conscious intelligence (not to say histronic ability and cool cheek) of a quality which, it is almost certain, bees do not possess. Moreover, the habit could scarcely be fixed by natural selection, should it ever arise; for the egg, after all, would not perpetuate the strain of bees that store it. In a short while all the bees of the colony would be descendants of what amounts to a strange queen, which—at most—might have mated with a drone of the colony she was heading.

Mel Pritchard Says Bee Steal Eggs from Other Hives

Medina, Ohio, October 8, 1936.

Dear Mr. Root:

In the Confab, appearing in the October issue of Gleanings in Bee Culture, you say that it is a well-established fact that bees do move eggs, but that they steal eggs from other hives is not so well proven.

It is gratifying to find that others agree with me as to the bees moving eggs within the hive, and I still contend that they steal eggs from other colonies, and submit the following as proof of my contention.

My grafted cells are started in colonies that have neither queen, eggs, nor brood in any stage. They are made up by shaking bees into a hive containing frames of honey and pollen, and the grafted cells are given to them within two hours after they are made up. It is quite a common occurrence to find that one, or more, of the larvae have been removed, and eggs put in place of them.

Some time ago I introduced a Caucasian queen. I made up a light colony, using two frames of brood with adhering bees, and introduced her. This was the only light colony in the yard. Soon after this I found more eggs

than usual in the grafted cups. Some one suggested that they were laid there by fertile workers. In order to find if this were true, I left some of them to see what would come from them and in each instance they produced fully developed virgins, but they were as black as the Caucasian queen.

I still believe that the bees in the grafting colonies went out to other hives and stole eggs. And that they found the light colony with the Caucasian queen was easier to steal from than the strong colonies. If I am wrong, will Mr. Latham, or some one else, tell me where the eggs did come from? MEL PRITCHARD.

Mr. R. O. B. Manley, of Oxford, England, author of "Honey Production in the British Isles," just off the press, recently sends the following contribution:

The belief that hive bees, when they find themselves without a queen and without any means of producing one, will enter the hives of other colonies and remove from thence eggs and, carrying these to their own abode, proceed to rear themselves a queen, is one that at least dies hard.

The theory is based, we may well suppose, entirely upon the fact that on rare occasions, or perhaps on incidents not so very uncommon, of there being found in a colony believed to be destitute of eggs wherewith to produce it, a normal queen-cell which produces a normal queen. Now it should be emphasized that the whole idea hangs upon the supposition that nowhere in the combs of that hive did there exist any viable egg whatever.

We know so little about the eggs of the bee that it seems to be taking things for granted to an unwarrantable degree when we allow, without real proof, that no egg can exist in the combs of a hive, undeveloped, but still viable. Is it certain that such an egg, lying, perhaps, in some cell outside the warmth of the cluster, may not be capable of development?

It may seem unlikely that such stray eggs are taken by queenless colonies and reared; but, on the other hand, surely the theory of stealing eggs from other colonies is even more so. Consider for a moment what is implied in the latter hypothesis. Nothing can be more certain than that insects act entirely by intinct in all they do. A certain limited intelligence may possibly be allowed; but reason is quite certainly not possible to these creatures. When a bee enters another colony for the purpose of robbing it of its honey, we easily understand how this comes about. Implanted in the insect is the overmastering instinct to gather honey whenever and wherever it is to be had. Bees are, except during a honey flow or during cold weather, ceaselessly hunting for food, and whenever an unguarded hive is found they will enter and steal the honey it contains.

But to suppose that the bee steals eggs for queen-raising purposes is to imply that it goes far beyond such instinctive activity, and attributes to the insect, not intelligence only, but a quite high degree of reason—reason, indeed, of a grade so high that we should hesitate to ascribe it to even one of the highest animals, such as a dog or an ape. The bee that steals the egg is supposed to be a reasoning being and to know that a new queen can be raised from any fertile egg; that there are such fertile eggs in other hives, and, accordingly, it is supposed to sally out to steal an egg for the purpose.

Even if this absurdity be granted for argument's sake, we come against a further difficulty. We must concede to our bee yet another human attribute, and one not too common even among men, that of self-control. Our egg-stealing bee, having entered the alien hive, finds itself passing over combs containing, not eggs only, but unsealed honey, and we thus have further to suppose it being able to resist the over-mastering lust of its kind for honey in favor of the egg, or at any rate to remember what it came for after filling up with its beloved sweet.

There may well be men who are so constituted as to find all this credible but among them is not your present contributor,

R. O. B. MANLEY,
Benson, Oxford, England.

Referring to the discussion on size of winter entrances in the previous issue, Allen Latham has this to say:

Locality should have much to do with size of winter entrance, also the shelter the bees have, the prevailing winds, and the convectional drift of air about the hives. The size of entrance, provided the bees do not smother from a closed entrance, does not affect the wintering of the bees so much as it affects their building up in spring. Moldy combs hinder spring development.

Even with entrances 13 to 14 inches long and 5-16 inch deep, many of my colonies came through last winter with badly molded combs. In the case of my "let-alone-hives," which you once wrote about, Mr. Root, the entrances are ⅞ to one inch high and about 17 inches long. I never in my 35 years with this hive had a colony die in winter, with one exception, provided the colony was reasonably strong, was queenright, and had enough stores. One colony died through an accident. I never saw moldy combs in these hives except when they were left in too low and damp a place or were buried a long time under snow.

A large entrance is far to be preferred to a small one, but this large entrance must never face the cold winds of winter. Bees will stand very low temperature if the air about them is still but if drafts of cold air sweep against the cluster the result will be fatal.

More About Carbolic Acid Method for Removing Honey

Mr. Clarence J. Tontz, of Norman, Oklahoma, favors this method and writes as follows:

In regard to using carbolic acid screens (or should I say "phenol alcohol method," as suggested by Mr Orlopp in the November issue, which would appear to be preferable over the original term) it is possible when honey is permeated by the carbolic acid fumes causing "taste and taint," as pointed out by Mr. Johnson, that something was amiss in the method or materials used.

As a member of a crew that worked 1500 colonies of bees for both extracted and comb honey in Iowa this past season, I observed that in using the "phenol alcohol method," the honey was not affected in any way. Almost every day we of the field crew, after bringing in a load of honey removed with the "stink boards," would eat slices of cappings as they fell from the uncapping knife. Also we would eat broken burr-comb honey freed from the carbolic acid fumes only a few seconds previously. If, after using the carbolic screens, any unpleasant taste or odor had been present, we would have detected it.

Mr. Johnson mentions that with the "phenol alcohol method," there is danger of injuring the bees. This is logical because of the structure of their respiratory organs. We had several colonies start absconding as a result of the fumes, but the bees returned when the screens were removed. A few colonies became so irritated they stung violently. However, these two inci-

(Continued on page 756.)

From the Field of Experience

TWO RIVAL HONEY TREES

Bees in Their Eagerness to Work Locust Neglect Tulip Poplar

Our black locust and tulip poplar come into bloom at the same time, directly after apple bloom is past, about the middle of May. Both also inhabit the same range and are frequently found growing together. But in many other respects they are totally different.

A fine specimen of tulip poplar.

The poplar is a soft wood, the locust hard. Poplar has large single blooms, imposing in appearance, but compared with the locust, inconspicuous. The locust tree in full bloom is like a towering white cloud. Poplar secretes an abundance of nectar; smaller insects often drown in it. The small blooms of the locust offer no such excess, yet bees prefer the locust. Honey from the poplar is dark reddish in color and strong flavored. Locust honey is a brilliant light amber verging on water white, and mild.

Dr. Phillips has stated that a colony of bees properly wintered should store 100 pounds of poplar honey in a fair poplar locality. But they so seldom do this, in spite of the obvious abundance of the nectar and the length of time that it is available, that further explanation seems to be called for. This is found, I believe, in the rivalry between the two trees that has been noted by observers at the Bee Culture Laboratory. The preference of bees for the locust is so strong that they begin work on it with the first opening of the bloom and hang around it long after it has ceased to bloom.

Petals of the locust bloom begin to fall off almost as soon as the bloom opens. The honey flow from it may last only three or four days, tapering off rapidly. Now about this time—I am not sure of the exact date, and it does not happen every year—there comes a period when bees are practically unmanageable. Smoke does not control them. They sting in spite of anything we can do. This occurs about the time the flow from locust ceases. During the height of the nectar flow from poplar, its upright, cup-shaped blossoms, many of them as big as a small tea-cup, hold nectar in such quantity that it might almost be dipped out with a spoon.

Black locust.

Eventually the bees do turn to it and store considerable honey from it. But much time has been lost. The amount stored by colonies at peak strength is nearer 50 pounds than 100. And the only way we can account for it is by taking into account the time that the bees evidently spend in pining for the locust that is too soon gone.—W. H. Hull, Vienna, Va.

COST OF PRODUCING HONEY

If Beekeepers Only Knew Actual Cost, There Might be Less Price Cutting

The actual cost of producing honey should be of interest to every commercial producer and to every beekeeper. I am glad to note that S. L. Forrest in July Gleanings has started the discussion. Perhaps a mere beekeeper should not attempt to criticize a banker, but, nevertheless, while I agree with him in most of his article, I believe that he has omitted some important items of expense.

In the first place he omits depreciation which, in the case of outdoor wintering, may amount to five per cent or more of the capital invested. Secondly, his labor charge is low. At least, it would be in this locality and probably in most parts of the country. His average annual wage of $577.00 for producing a crop approximating 30,000 pounds yearly is much less than that of most any other vocation and considerably less than the amount paid a WPA "worker." The actual value of all labor, skilled and unskilled, should be included in the cost of production whether performed by the owner or paid for in cash. Interest on capital invested also should be charged whether borrowed or supplied by the owner.

I do not agree with the writer that the residence of the owner has anything to do with production. The owner, in all probability, would either own or rent a domicile if he were in any other busines, or in no business at all. It is a matter entirely apart from the business of honey production.

Then, he adds to profits by including retail sales. Any profit made by retailing is not a part of production and can not properly be credited to production. Retail profits might be the same if the honey were purchased. To arrive at the profits of production, we must consider the wholesale selling price of the crop, not the retail price, deducting cost of containers, freight charges and such other items as are customarily charged against the producer.

Mr. Forrest's average production per colony for the eight years, as set forth in the article, is about 109 pounds. This is far above the average colony production in the United States as shown by a tabulation compiled by the Bureau of Agricultural Economics, U. S. Department of Agriculture. The average thus given for the seven years ending in 1934, in the 48 states, is approximately 38 pounds per colony. This amount is believed to include only the production of commercial beemen and not that of small beekeepers.

I agree with the writer that unless one is in an exceptionally good locality, extracted honey can not be produced profitably for less than eight cents a pound, even in large lots. The production cost of comb honey would run considerably higher. Perhaps if all producers, large and small, would realize that not every dollar received is profit, there would be less price cutting. My contention is that if we are to arrive at a true understanding of the matter, we must count all of the costs instead of only a part of them.—E. S. Miller, Valparaiso, Indiana.

BUCKWHEAT DOES NOT YIELD

Plenty of Room, Seemingly Ideal Conditions, and Not a Drop of Surplus Honey

A rather strange condition seems to exist in this district in regard to nectar secretion from buckwheat, nor is it possible to find among our technical workers in agriculture any one who can satisfactorily explain the situation which, in brief, is as follows:

In August of this year we found there was an area of about 120 acres seeded to buckwheat some three miles from our nearest apiary, too far, we thought, for bees to work to advantage. As a consequence on August 6, 25 colonies were crated up and moved right into the center of the buckwheat area. These colonies were exceptionally strong and practically idle at the time, the clover and basswood flow being over. Plenty of supers of foundation and drawn comb were placed over them and we figured there would surely be a nice showing of buckwheat honey by the end of the month.

Torrential rains fell the day before the bees were moved, so much so that the ton and a half truck sank to the axles in the meadow where we had planned to set the colonies. The weather following was practically ideal in our opinion for the secretion of nectar, still, hot, humid days, slightly overcast and at times quite heavy precipitation.

The buckwheat fields were white with bloom at the time of moving bees and as

XUM

the area had been planted at intervals there were fields which were still in the bud stage. The idea of the concern sowing this large acreage was to plow it down for its manurial value but as there was only one team plowing steadily at the rate of about 10 acres a week there was no chance of getting ahead of the blooming areas before the end of August or mid-September.

A visit to the colonies the week of September 15 reveals the fact that hardly a pound of buckwheat honey was collected or stored by the 25 colonies moved into the district.—H. Harley Selwyn, Ottawa, Ontario, September 21, 1935.

[We asked Mr. Geo. H. Rea, of Cornell University, extension specialist in beekeeping for New York State, to give his opinion on this matter, which he has done as follows:]

Like all nectar-bearing plants, buckwheat will produce more honey if grown under optimum conditions. It needs acid soil to do best. Here in New York and in Pennsylvania the Volusia and DeKalp soils, which are acid or sour soils, produce the most buckwheat seed and honey. It does grow in considerable areas on soils which are neutral to sweet, but it is well known that on such soils it is not usual for it to produce as many bushels of seed per acre nor to be as reliable a source of honey as on the acid soils.

The "hot and humid" days which Mr. Selwyn mentions would not be favorable to buckwheat nectar secretion. Buckwheat requires comparatively low temperatures to do best. It does best where the nights are cool and the mean temperature during the blooming period does not exceed 70° F. Considerable humidity is necessary but the weather must be cool but not too cold for the bees to fly, of course. That is one reason why it does well on the high Allegheny Plateau. Cool nights and bright days with rather low temperatures suits buckwheat best.

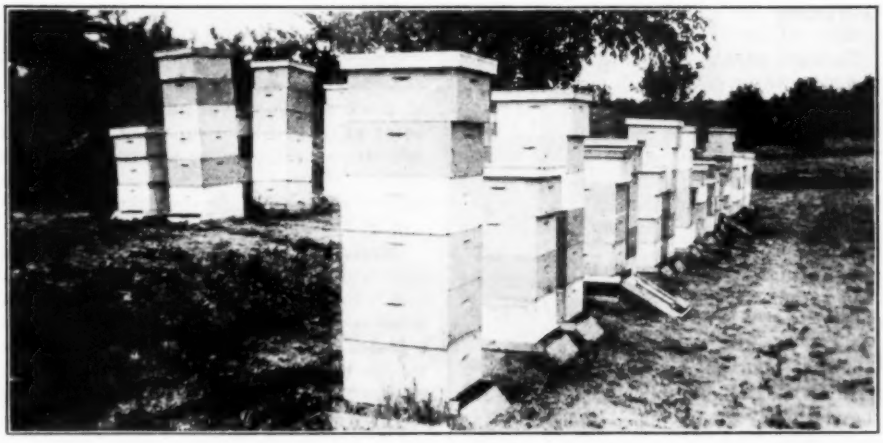
THOSE HYBRID BEES AGAIN

Hybrid Vigor Properly Acquired Should be an Asset to Beekeepers

Recently there have appeared several articles concerning the use of hybrid bees for honey gathering, and it was somewhat of a surprise to find one writer who had his doubts about the efficacy of hybrid bees.

A few years ago his attitude would almost have been taken for granted, as all workers interested in animal or plant breeding would tolerate nothing but pure bred strains of livestock or plants. At the Mount Hope Farms, Williamstown, Massachusetts, Mr. Prentice, throwing tradition to the winds, has been crossing the highest producers of milk or butter of all so-called races of dairy cattle, and the resulting hybrids are proving themselves better often, than the pure lines from which they came. Some enthusiastic supporters of this new idea see in this method the greatest advance of years in the breading of animals (and plants). A few years ago only pure bred lines of poultry were being advertised in the journals, but today one sees company after company offering for sale hybrid eggs, produced by crossing two high-producing, pure strains of chickens.

What is true of cattle and poultry will undoubtedly prove to be true in the case of bees. One of the writer's friends, Mr. Richard Arms, of Deerfield, Massachu-



Experimental apiary at Ames, Iowa, where Italian, Caucasian and Carniolan bees are kept for experimental purposes. This past season the Carniolans are slightly ahead. Last year the Italians were ahead and the previous year the Caucasians were in the lead in honey production.

setts, once told how he made his cross, one year buying Carniolan queen bees and the next year buying Italian queens, alternating between the two races from year to year. He reported the bees to be no crosser than the pure bred strains and they produced more honey.

A thorough study of this subject is seriously needed in the bee industry. After years of study on improved equipment, methods of handling bees and selling honey, it is not being recognized that the bee itself merits more attention. Testing stations in absolute deserts or on barren oceanic islands might be prepared and crosses made between the different races of bees under carefully controlled laboratory conditions, the hybrid queens then being tested under field conditions for honey gathering and pollination.

Hybrid vigor, properly acquired, is one of the greatest assets one may have in animals especially reared for production and there is no reason why the beekeeper should not avail himself of such an important factor.—Claude R. Kellogg, Foochow, China.

[Where Mr. Kellogg refers to the method used by Mr. Arms of getting a first cross, viz., buying Carniolan queens one year and Italian queens the following year, the queens used would have to be queens of one race mated with drones of another race. This could also be accomplished by introducing, say, virgin Italian queens to an apiary of Carniolan bees one year, then the following year introducing virgin Carniolan queens to the same apiary, which would then have Italian drones.—Editor.]

HONEY INCREASES HAEMOGLOBIN

Haemoglobin Is the Essential Part of the Red Corpuscles in the Blood

On November 27, 1935, I asked the principal of a school to select the 15 or 20 most pale and anemic of his children.

Doctor Louis Paré, head of the laboratory in Ste. Justine Hospital, kindly tested the haemoglobin in the blood of 17 boys ranging from 8 to 16 years of age. (Sahli Method.)

Fifteen pupils took two teaspoonsful of non-heated honey (15 grammes) in the forenoon, and as much in the afternoon, on school days up to March 10, 1936. Two pupils served as witnesses and did not eat any.

Results: In 11 of the 14 children who ate the honey, the haemoglobin increased from 8⅓ to 25 per cent. This increase is considerable because if we succeed in restoring to the blood its normal quantity of haemoglobin, it will be noted that chlorosis (paleness), anemia (deficiency of the blood) and their resulting discomforts, will disappear, in many cases.

Even though the twelfth showed an improvement of six per cent, we did not include him among those showing improvement. The thirteenth and fourteenth were sick children; we observed this when we examined them to determine the cause of their failure to react. The fifteenth pupil already had 80 per cent of haemoglobin before the experiment; so his condition remains the same and is considered normal. We may conclude that 11 pupils out of the 14 really showed improvement.

The sixteenth and seventeenth children (the witnesses) varied only by three per cent, and since they had not even moistened their lips with honey, they remained below the mean rate of improvement. Nine of these young men were suffering from headaches; five no longer suffer or very seldom do. The two witnesses who abstained remain with their troubles. One who suffered from chronic constipation is much improved.

Weighed in November and then in March, 11 of the 15 pupils showed increases of 5 to 12 pounds. The two who abstained gained only 1½ to 3 pounds. The complexion of all these youths was completely changed: from pallor it became quite rosy; tell-tale circles beneath the eyes have disappeared. All admit that they are much stronger, less fatigued at the end of their school day or after play.

In cases of new-born babes, we have replaced sugar in the milk by honey. Many of these babes walked at nine months of age, showed considerable life, and their teething was considerably facilitated.

Honey is synonymous to health, to longevity for the child, to an alleviation of life's tasks for the aged, to a clear complexion and confidence in the future for the adult, since honey renews the vigor of the whole system's functions.

Consider these facts so that the use of honey may become a habit with all.—Dr. Henri Dorval, Montreal, Canada.

COMMENTS ON CURRENT ITEMS

Howard Myers, of Ransomville, N. Y., has given us a valuable article on the different methods of wintering bees. I have visited Mr. Myers a number of times and as weather conditions in Niagara County, N. Y., are very similar to our own, the thermometer only occasionally reaching zero and never staying at that low temperature long, the various kinds of winter protection he describes I have tested, and with one exception, about the same results have been experienced. The one exception is the protection given by the use of the double-walled hive.

The Double-Walled Hive

We have used this style of hive for a good many years and very few of them have more than one inch of packing between the ⅜-inch walls. These are just as good as hives with ⅞-inch walls and a lot lighter to handle. All lumber or any wood is a conductor and the cold will strike through ⅞-inch almost as easily as it will one-half that thickness.

One point in favor of the double-walled is that it is insulated against the heat of summer as well as the cold of winter, and don't forget it takes at least 75 per cent less work than packing and repacking fall and spring.

Cork a Good Insulation

We use insulating paper that is waterproof placed flat against the walls of the hive and the one-inch space between the two walls is filled with fine regranulated cork. The paper says to Old Man Frost "thus far shalt thou go and no farther."

One of the most prominent and also extensive beekeepers in Canada told me while discussing the merits of regranulated cork that one inch of cork (with paper on each inner wall) was as good as three inches of sawdust, and from practical experience I think that is about right. If my hives did not have the paper protection I should use a larger packing space.

The Carbolic Method

This is an old question and it pops up every few years. We have tried it out several times and while it will work when the outside temperature is just right it is (with me) not a sure-fire every time. We have never used any sort of carbolic acid but the crude. We never had any trouble with it tainting the honey. We did not use the liquid pure but used a solution of water and carbolic. A good plan is to keep it in a well corked bottle. We removed the cork and substituted a cork with a quill shoved through it. Sprinkle the solution liberally on a cloth before placing it on the super. When conditions are just right the bees will leave the supers.

Revenue from Dark Honey

Our first experience from making honey vinegar was about thirty years ago. It was before we had any experience with the capping melter and, of course, no matter how well the cappings were drained there was considerable honey left in them. We threw cappings from clover honey in a large clean tub, washed our hands and after the cappings were well soaked we squeezed with our hands and formed the clear cappings (no honey in them if water was slightly warmed) into balls. When the honey water was thick enough to float an egg it was ready to go into the barrel. We couldn't buy a regular vinegar barrel from any of our merchants and had to go to one of the hotel keepers to secure a 40-gallon whisky barrel. We scalded it out, bored a hole at the bottom end and inserted a spigot, bored a one-inch hole close to the top at both ends and tacked a piece of wire mosquito netting over the holes so the air could circulate over the top. We poured in the honey water placing a strainer over the funnel that went into the bung hole and plugged the bung hole. We placed the barrel where the sun would strike it. It was my first experience and, of course, I was interested enough to draw a little from the spigot now and then. In a few weeks I was quite pleased to find that fermentation had commenced. I was so busy that I neglected to sample my new experiment and toward the close of the summer I drew a cupful out. Of course, that was at the alcoholic stage and it wasn't a square deal for the District Deputy Grand Master of a certain temperance society to, well, more than just sample it (believe it or not). Talk about the after-effect of a few glasses of that stuff! I'll bet that there would be bees buzzing in one's head for three days afterward. But the acetic fermentation came in due course and I sold that barrel of "white wine" vinegar to one of our merchants for a good price.—J. F. Dunn, Ridgeway, Ontario.

SPINSTER JANE SAYS—

That first Christmas message, "Peace on earth, good will toward all men," doesn't mean a thing to many of the nations of the world this Christmas. Spain is in the throes of a bloody, civil war. Certain dictators, intoxicated by too much power, shake mailed fists, and defy the world in bombastic speeches, forgetting that message of peace. Millions are being spent on armaments, and on devilish devices to kill their fellow men, while little children the world over cry with hunger, and suffer from cold—which these same millions might have fed and clothed—bringing life rather than death.

Thank God, a great ocean intervenes between us and all this strife, and again we give thanks for our good, peaceful neighbor, the United States. With their election settled, and their country again to be guided by a man of vision, prosperity should be theirs in full measure. May it grow and spread to their northern neighbor. Statesmen are sorely needed. They are far too few, while politicians are too plentiful.

Peace

If you were asked to paint a picture entitled "Peace," what would you depict on your canvas? Cattle grazing? Sheep at rest? A calm bit of lake? Mine would be a cottage with a background of trees, flowers all about, and a few white beehives, backed by shrubs. It must be so realistic that you can smell the flower fragrance, and hear the drowsy hum of the bees. That is my idea of peace.

Wild Honey or Bees?

The other day while reading a story in Good Housekeeping, I came across a saying from the old Chinese philosophers, which is well worth passing on. Here it is: "Wild honey is sweeter on the lip swollen by bee stings." Wild honey, and here is a case of transferred epithet—the bees, not the honey, being wild. All bees are wild and never will be wholly domesticated, though they live in hives, instead of in caves and hollow trees. What is true of those wild bees, then, is true of all honey bees.

The Price of Success

Would success in beekeeping be half as sweet if there were no stings and difficulties to overcome? The honey really tastes better when it is the fruit of our own hard labor. The venison taken from the deer the hunter himself bags after days of arduous tramping through bush and over rocks, tastes better than does the bit brought him by a generous friend. The fortune we amass through years of hard work and thrifty buying, we appreciate. Can as much be said of the fortune bequeathed us? For proof of this, look at the spendthrift sons of many millionaires. They can not appreciate what they have not helped earn. What we acquire by surmounting obstacles and overcoming difficulties, is sweet. That old Chinese philosopher knew what he was talking about. China, too, can boast of her Solomons. Once in a thousand years a really wise man crops up, but isn't it usually because of the teachings of some wise mother or wife? These man-made records hide all they can about women, especially those of China where the female is considered as a necessary evil.

The Wise Bees

We are taking a conservative daily, for a few months—the most truthful and unbiased one of that party—and though staunchly liberal, it surely pays to read both sides and then judge fairly. We did not subscribe for this very excellent reason, but simply to help a friend who thus obtained votes to help her in a competition, run by this proper, the prize being a trip to England at Coronation time.

I was not particularly interested in the political chit-chat of this paper, but I did enjoy a series of pictures it has published, because many, strange to say, were about the honeybee. Here are a few: "When Queen Meets Queen," "Youth and Age," "Face to Face with a Bee," and a fourth showed and explained how the bees keep up a circulation of air in the hive. Men always growl at open windows in cold weather. They would enjoy a place hermetically sealed, in winter, I really believe. The bees are much wiser.

I trust those pictures may arouse a little interest in bees, but we fear its just another case of Ripley's "Believe it or not" pictures. They are looked at, laughed at, then forgotten. Instead, let us hope they will keep Caesar's slogan in view—reading, the picture came, it was seen, then the mystery of beekeeping was conquered. In fact, let this be our slogan for the coming year. The bees are here, let us see with wise discerning eyes all we can learn of them, then let us conquer all our difficult bee problems.

Merry Christmas to everybody.—Spinster Jane.

XUM

Editorials

At San Antonio

Just as we go to press our Senior Editor, now at San Antonio, informs us by air mail that beekeepers from North, East, South and West are coming to the big meeting by train, auto and plane, and it looks as if the Crockett Hotel, where the meeting is to be held, will be filled up before even the first day. There are a number of the scientific men, who, on account of distances and lack of appropriation, will be unable to come.

• • •

International Honey Exhibit at San Antonio

As noted in our last issue, page 653, Miss Arlene Weidenkopf, Secretary of the American Honey Producers' League, was planning to have on display at the San Antonio meeting the largest and most wonderful array of foreign honeys ever presented in this country, if not in the whole world.

This marvelous display so carefully planned in advance has become a reality. Back of the samples are photographs of foreign apiaries from which these honeys were obtained. Great credit is due Miss Weidenkopf for getting up so fine an exhibit and presenting it so attractively.

No less interesting and equally instructive is the exhibit of honey foods presented by Mrs. Malitta F. Jensen, of the American Honey Institute. Pictures of both exhibits with a report of the convention will be presented in our next issue.

• • •

Gold Medal Features Honey

During September and October the Gold Medal Foods, Inc., of Minneapolis, Minn., featured honey very prominently in connection with Betty Crocker's Bisquick Coronation Menu program. About 600 General Mills' salesmen covered the country's grocery stores, arranging grocer features and displays of Bisquick, honey and other related items; also, between two and three thousand jobbers' salesmen were engaged in promoting the sale of these products through grocery stores.

Magazines which carried the advertising for this program were Woman's Home Companion, October issue, with a circulation of 2,763,810; Saturday Evening Post, October issue, circulation, 2,811,410, and McCall's, November issue, circulation, 2,433,132. This means that a total of 8,008,352 issues of the three magazines carrying this ad featuring honey were circularized throughout the country.

In addition to this advertising in magazines, the Gold Medal Feature Hour and Half-hour radio programs were broadcasted over 72 stations. In all of this advertising honey was given a prominent place.

This information is made available through the kindness of R. L. Brang, Vice President of Gold Medal Foods, Inc., at the suggestion of Mrs. Jensen, director of consumer education of the American Honey Institute.

Isn't this splendid publicity for honey? Beekeepers are indebted to Gold Medal Foods, Inc., for including honey in their menu, also to Mrs. Jensen for contacting Gold Medal Foods concerning the use of honey some years ago through the American Honey Institute. May we suggest that beekeepers who really appreciate what Gold Medal is doing for honey, drop a line to Mr. Brang?

• • •

The Best Part of Bee Conventions

During the past season there have been some wonderfully fine bee conventions throughout the country. Aggressive beekeepers attend these meetings to learn the latest developments of the industry. Beekeepers who stay at home and do not avail themselves of such opportunities for advancement may get into a beekeeping rut.

Frequently the best part of bee meetings are the little sessions on the side or between main sessions when small groups exchange ideas and opinions. Occasionally these discussions may continue into the small hours of the morning. Some of our best beekeepers who feel incapable of appearing on the regular program are willing to share their beekeeping experiences in these smaller groups.

One new idea gained at a bee meeting

may be worth many times the cost of attending the meeting.

• • •

A Chicago Restaurant Boosts Honey

One of the strongest boosters of honey is the Maxwell vegetarian restaurant in Chicago, at 404 South Wabash Avenue. The only sweetening used is honey or brown sugar. A friend who has patronized this eating place says it is one of the best in the city.

John Maxwell, the proprietor, has gotten out a special circular on honey as a food. No ardent beekeeper or booster of honey can say stronger things in favor of honey than John Maxwell. He doubtless would send you a copy if you asked for it. Doubtless, too, he would be glad to send you a copy of his Health Food News also.

Beekeepers in and about Chicago should patronize the John Maxwell restaurant. It is said to be "a grand place, the most outstanding Health Food Center in the middle west."

• • •

Package Bees vs. Wintered-Over Colonies

On this question Prof. F. B. Paddock, Apiarist for Iowa, wrote recently:

"I am interested in any improvements that are coming with the shipment of bees. It seems that our producers this year have developed an unprecedented interest in the use of package bees. Part of this was due to winter loss but before that was discovered orders had been placed for more packages than ever before in the history of the state. Every place I go the producers are reporting that package bees get under way with more vigor than the over-wintered colonies, which probably will point to the still larger use of package bees. The unfortunate thing is that packages this past season had to be delivered late and the demand could not be met. That may set back the scheme of some of our producers to use package bees more liberally. We have two or three suggestions that have come into the office that may be worthwhile. Queens shipped without attendant bees and without feed have seemed to do better than queens sent by other methods of shipping."

When a large percentage of colonies are wintered, without adequate protection and without sufficient stores, package bees will outstrip wintered-over colonies. If, on the other hand, the food-chamber is used, thus providing the bees with an abundance of natural stores, and if bees are given adequate protection against the cold, the probabilities are that the wintered-over colonies will yield a larger return in honey than package bees from the South. However, following a very severe, unusual winter, package bees may rival or surpass colonies wintered under the best of conditions so far as stores and packing are concerned.

It should be remembered that this whole matter is in an experimental stage. While it is true that some commercial beekeepers in the extreme North find package bees the equal or cheaper than wintered-over colonies, the rank and file of beekeepers will doubtless find that in normal winters colonies moderately packed, with sufficient stores will be cheaper than package bees. As a matter of fact, the experiment conducted by the Dominion of Canada Experimental Farm, referred to in this issue, page 738, in the editorial, "New Bulletin on Package Bees in Manitoba," appears to confirm this opinion.

• • •

The Value of Windbreaks

Ample protection for colonies of bees wintered out-of-doors in the North is one of the essential requirements for successful wintering. Of the two kinds of protection, viz., packing or insulation for hives of bees and a windbreak for an apiary, more emphasis is being placed on the latter. Both are important, however.

Low dense shrubbery, young timber, a thick woods, a high bluff, a series of buildings or an orchard will break the force of the cold wintry blasts. In the absence of natural protection a high fence with the boards spaced about an inch apart should be erected. The spaced boards permit the wind to filter through slowly and not glance upward and then downward as would be the case with a solid board fence. The purpose of a windbreak is not to stop the wind but to break or divert its course.

• • •

Bee Escape or Carbolic Acid

Said a large buyer of honey, "I have received a shipment of honey that bears the carbolic acid taint," and, in proof, he gave us a sample to taste. Sure enough, it had an off odor or taste reminding one of carbolic acid.

So many have reported success with the acid plan and insisted that no odor was left that we are inclined to the opinion

XUM

that in the case of this one lot of honey, the producer either had not followed directions or had used an inferior commercial article. The cheap stuff in liquid form may leave an odor; but if one will use the pure white dry carbolic acid crystals in blue bottles, sometimes called phenol, there should be no odor or taste clinging to the honey.

It goes without saying that the supers after being freed of bees should be ventilated, although some do not think this a necessary precaution.

This matter is so important that we again say: buy the right stuff and follow directions.

If there are any producers who have complied as above directed and found that there was an odor still clinging to the honey, let us hear from them. If there are any buyers who have noted the same thing in honey let them speak up.

It should be explained that honey shipped in second hand cans, even when they are well washed with scalding water, may take on the odor of the original contents of those cans. Cans that had formerly contained honey could be used again if otherwise good.

• • •

Soil Conservation Program in Relation to Beekeeping

The purpose of this soil conservation program is to encourage wiser use of the soil resources. Comparatively few people are aware of the very serious decline in the fertility of our soil and the actual loss of soil as a result of overcropping, erosion and the lighter soils being blown away by high winds.

The Soil Conservation Service estimates that it takes only about three years of tilling moderately steep slopes in certain states to lose an inch of top soil which has taken the slow process of nature at least 400 years to produce. Too many farmers have used the land for all it would produce in corn, cotton, tobacco, sugar beets and other such crops that tend to deplete the soil of its fertility.

The time has come when the nation's soil must be conserved by planting more perennial grasses and legumes to add nitrogen to the soil. The planting of biennial legumes, such as alsike and sweet clovers, also perennial legumes, such as alfalfa and white clover, will surely benefit the beekeeping industry. In turn, the bees will benefit the clovers, especially in pollination where clovers are grown for seed.

The future of our industry appears to be brighter by reason of the soil conservation program which is already under way.

• • •

New Bulletin on Package Bees in Manitoba

We have just examined Farmers' Bulletin 11, Publication 522, issued recently, entitled, "Package Bees in Manitoba," by Erdman Braun, of the Dominion Experimental Farm, Brandon, Manitoba, Canada. This gives the results of eleven years of experimental work with various sizes of packages installed at different times during the spring months, also packages compared with over-wintered colonies.

At least four conclusions in the summary of the bulletin are vital to users of package bees, not only in the prairie provinces of Canada, but also in the United States. First, two-pound packages, although producing slightly less than three-pound packages, provide the higher net returns for the sums invested. Second, queenless packages used to strengthen weak over-wintered colonies, increase the gross income, but do not provide the same profit as straight commercial packages. Third, package bees do not provide as large net returns as do over-wintered colonies (winter loss and extra labor taken into consideration) over an extended period of years. Fourth, the loss of package queens through supersedure, although uncontrollable at present, should be carefully watched to ascertain the cause and to try to alleviate the large annual loss sustained by package purchasers.

This bulletin is worthy of a careful reading by users of package bees.

• • •

Sugar, Honey and Butter

In a year of shortage of honey, why should beekeepers continue to injure markets by making cut rate sales, either direct or through stores? No use blaming the stores, if the producers have made the low price possible. And why should

(Continued on page 754.)

From North, East, West and South

SOUTHERN CALIFORNIA, November 5.

Weather: We sometimes wonder if the beekeepers and farmers in any other part of this great country get as much real pleasure and hope from a few inches of rainfall as we do in southern California. Copious rains have fallen over our part of the state and everybody wears a smile. It is certainly promising for next year after the long dry season just past.

Honey Crop: We have had inquiries for comb honey, but there is none produced here. Thirty-five or forty years ago the majority of beekeepers in this part of Riverside County produced part or all comb honey. They all either went out of business or changed over to the production of extracted honey. Today we do not know of a beekeeper in these parts who produces comb honey.

Miscelianeous: The big fair of southern California, that of Los Angeles County, held at Pomona, was bigger and better than ever this year. As usual one of the attractions was the display of honey. Three outstanding exhibits were those of Riverside, Orange, and Los Angeles counties. The first prize went to Charles Kinzie, with the Riverside County display. Fortunately, Mr. Kinzie received cash awards that in a small way repaid him for the vast amount of time and labor expended. But generally speaking, the people who put on the exhibits do so for the pleasure they get out of it and the love they have for the industry. Very seldom do they receive a money consideration commensurate to the time and labor expended.

The condition of bees varies in different apiaries and localities. Where bees produced a crop of honey they are in good shape. Where a little honey was taken it has been necessary to feed for winter stores. Where this feeding was done early the bees are in a better condition than where it was put off until late in the season.

Some weeks ago Mrs. Andrews bought a "Honey Jar." It is the latest thing in honey pitchers. The top is non-tarnishable and screws on. There is a handle on one side and a slide closing device on top that works with the thumb. This slide opens an outlet a little larger than a lead pencil and when it closes it cuts the stream of honey off clean with no sign of a drip. It is the best thing we have seen. The only objection we find is that most of the honey is too thick and flows very slowly. If the honey could be warm or a little thinner so as to flow readily, this honey pitcher would become popular and there would be a growing demand for hot cakes and honey and hot biscuits and honey.—L. L. Andrews, Corona, Calif.

• • •

NORTHERN CALIFORNIA, November 6

Weather: We have had our first rain and bees are being moved into winter quarters. It means that the apiaries in fields that must be plowed will be moved into orchards ready for the early fruit bloom. Rain was light over the entire northern part of the state, an average of less than an inch.

Honey Crop: Since the rain to date, the weather has been clear and warm and bees are gathering pollen from the diminishing star thistle and eucalyptus. Here in the bay region too many bees have been moved in for the eucalyptus. We can not expect such a crop as we had the past spring. Some of us may be disappointed. We have a few beekeepers who failed to get a surplus but thus far we have heard of none whose bees did not fill up on rabbit brush and other late blooming plants. This will insure bees being in good shape for the early fruit bloom.

The office of the State Association is receiving many more requests from buyers of honey than usual. Prices are a little better and honey is rapidly passing out of the hands of producers. Some of our large producers have held their honey for December delivery at a price slightly over today's prices. Now that the time has arrived for beekeepers to know just about what their season's crop is, we find very few who can say that the total crop

XUM

is more than half of what it was last year, we are constantly reminded that the up-to-date beekeeper stands the better chance.

Beeswax: Beeswax is in good demand with little change in prices. The crop is below that of last year.

Miscellaneous: We are at a turning point in beekeeping in California. The little man must get busy or be snowed under. A beekeeper reminds us that "snowed under" is not a good expression to use in California. Another, just a little more up-to-date, adds, Californians will understand. Beekeepers must awaken to the fact that the industry is endangered by airplane dusting of crops. Again this year whole apiaries have been wiped out by this method of dusting. Beekeepers are slow to recognize their danger. Here in the office of the State Association where our attorneys are trying cases for beekeepers who have had heavy losses, we find it next to impossible to get the cooperation from the beekeepers we should have. Nothing can be done effectively to help the beekeeper whose bees are poisoned, unless (a) he will constantly and carefully watch his bees to detect and discover promptly injury done them, and (b) will, at once upon discovery of sick or dead bees, have them tested to establish proof that they have been poisoned.—C. W. Hartman, Oakland, California.

• • •

TEXAS, November 1.

Honey Flow: The weather during October was not very satisfactory for bees. In the northeastern part of the state quite heavy flows occurred from composites and smartweed. These stores, in addition to a little crop from cotton and its associate plants, gave northeastern Texas a honey crop that was up to normal or better. The southern coast country enjoyed a prolonged honey flow from balloon vine and its kindred lianas. In the Corpus Christi section beekeepers reported that their bees had the best prospect for wintering for years. In the brush county the bees have made little or nothing since the early flow but the first of October they picked up quite a surplus from broomweed and other composites. Throughout the Edwards Escarpment the bees have gathered some winter stores from the green sumac (*Rhus virens*). The compiled reports from the state show that all bees are in normal condition so far as stores and population are concerned; honey plants are in much better condition than they have been for eight years.

Miscellaneous: The Gonzales County Fair was one of the few of its kind held this fall which had a honey exhibit. A very creditable exhibit was held under the direction of Louis H. Scholl, so well known to beekeeping, and was one of the best local displays ever made in that section of Texas.

Cardiosperum Halicacabum L., balloon vine, is included in all of beekeeping literature as a fine honey plant. Observations made on the Gulf Coast between Matagorda and extending throughout the Rio Grande Valley reveal the fact that the bulk of the balloon vine honey collected in that section comes from the perennial *Cardiosperum corindum* L. This vine is a hardy perennial throughout the section named and is found abundantly in all brush associations, blooming from July to December. In September and October the bees were very busily engaged in collecting nectar from it. Found in the same location and resembling this plant is its near relative, *Serjania incisa*, from which the bees were busily collecting nectar. These are two nectar plants added to the already large list from the Gulf Coast.—H. B. Parks, San Antonio, Texas.

• • •

COLORADO, November 1.

Weather: The weather man has given us quite a variety of weather this fall. Between the intermittent Indian summers, Colorado has received a number of snow storms. The first and heaviest of these came, as a surprise, a little after the middle of September, and measured a depth of from six inches to two feet in some districts. Untold damage was inflicted on orchards and other trees, the foliage of which became overloaded beyond the breaking point. October, too, had its rains and snows that temporarily closed mountain passes to traffic, and forced the thermometer to take a dip down to ten degrees above zero in some of the higher valleys. This precipitation, however, should put the honey plants, especially the sweet clover, in excellent shape for the oncoming winter.

The Honey Crop: While the honey crop

of the northeastern part of the state was discouraging, the southeastern section generally had a fair surplus, except some restricted areas that did not fare so well. On the western slope and in the mountain valleys fair to good crops of fine quality honey were harvested. Rainy and cold weather, in the latter part of the season, interfered greatly with the nectar secretion. Honey is in good demand and has moved brisker this fall than it has for several seasons past. The price is holding firm and somewhat higher than that of a year ago. Some beekeepers are already getting short on honey. Others are holding for better prices.

Miscellaneous: A meeting of commercial honey producers of this state is scheduled to take place at the Auditorium Hotel, Denver, December 22, 1936, at 10 o'clock in the morning, for the purpose of discussing the apiary inspection. Commercial producers of the state are urged to attend this meeting.

There is a greater demand for honey by the bakers in the fall and winter than in the summer time. The reason for this, as explained to me by a baker, is that school children are causing this extra demand. They just can't resist the honey cookies.—G. A. Pauli, Pueblo, Colorado.

• • •

ARIZONA, October 30.

Weather: Rainfall was ample through July and August, but it was very light through September and October. Weather has been very mild and bees gathered pollen and nectar. Dry weather caused the bloom to dry up earlier than some seasons. Weather favorable for bees to work is definitely over. There has been snow in the northern part of the state.

Honey Flow: The late summer flow from cotton in the Salt River Valley is reported better than usual, or much better than last season, due to more favorable weather conditions. As is generally the case the flow varies with each locality, depending on rainfall, weather conditions and elevation. The Russian Tamarack produces well where there is any quantity of it. It is mostly found around towns where people line their lots with it. The honey is not a first grade table product. This tamarack would be a great thing for the producers of this state if it came up from the seed. But it does not. It is necessary to set out cuttings to get it started in new areas and that is why it is spreading so slowly.

Miscellaneous: Colonies in the Salt River Valley, where the late honey flow is just over, should go into winter in good condition. But in the southern and western parts of the state bees are going into winter in very poor condition. Disaster hit many in the way of floods, spray poison, and loss of colonies from summer heat. Several producers in southern Arizona are feeding heavily now, and expect to have to continue until late spring of next year. Some moved bees from place to place to try to find locations where they would fill up well for winter. Some moved to cotton and their bees were killed by spray poison. Producers generally agree that it will take a very favorable spring to fill up all colonies with bees again before the spring honey flow.

Honey Sales: All large lots of the mesquite and catsclaw honey I know of have already moved to market. I do not know just how the cotton honey in the Valley is moving. Have had no inquiries for the light grades lately. But I feel sure that there will be no carry-over of this year's crop into next season.—Leslie Wedgworth, Oracle, Arizona.

• • •

OREGON, November 2.

Weather: This has been one of the driest falls Oregon has ever experienced. Outside of one rain over a month ago there has been hardly enough moisture to dampen the ground. Forest fires have been rather serious in some parts of the state, especially along the coast. Just what effect the unusually dry fall may have had on honey flora is still an open question. It is probable, however, that comparatively little damage has been done.

Honey Sales: Honey continues to move out into a ready market with every probability that this year's crop will be cleaned up long before the 1937 crop is available. Slight advances in prices are being reported from some sections.

Miscellaneous: The Oregon State Beekeepers' Association will this year be

XUM

meeting in Portland on December 7 and 8. The exact location of the meeting has not yet been determined but will be announced shortly in a beekeepers' news letter. All beekeepers who do not now receive this news letter should ask that their names be placed on the mailing list to receive the same. This news letter is sent out at irregular intervals, usually about four times each year. We are especially fortunate this year in having Professor Kelty, of Michigan, on our program. Every commercial beekeeper of the state should make a special effort to attend these meetings and take advantage of the wide experience of Professor Kelty, who is himself an extensive commercial producer in his own state. It is also important that all producers interested in legislation relating to disease control work be on hand, as this problem will come up for consideration.-H. A. Scullen, Corvallis,Oregon.

• • •

ILLINOIS, November 6.

Weather: During the past two months the weather conditions in this part of the state have been normal with plenty of rain and the temperature has been about right. Our first heavy frost occurred on November 4. The fall rains came too late to be of value as far as the crop is concerned this year, but it makes the prospects for next year's crop good.

Honey Crop: The crop conditions throughout the state this year have been as follows: In the lower part of the state it was so hot and dry that the bees did not store any honey; in the central part of the state a fairly good crop of sweet clover of excellent quality. In the northern part of the state the crop was spotted. Three or four counties in the northeastern part received no honey crop. In the northwestern sections about one-half crop was received. These variations in the crop were caused by the local showers during the summer.

Honey Prices: Under the present conditions of the short crop of honey and the fine quality of honey it might be well for the beekeepers to consider an advance in price. It is very pleasing to notice that the honey this year has none of the fall flavor which was so prominent last year.

Miscellaneous: Inspection in the state of Illinois has surged ahead this year as in previous years, and we are in hopes that in the near future it will be possible to place Illinois in the lead as one of the states of the Union having a very light percentage of foulbrood.

This morning I received a piece of comb from Delaware. It was infected with the rankest foulbrood. The accompanying letter stated that Delaware did not have any inspection. This is a condition in many of the states. The result is that one state cleans up and an adjoining state is heavily infected. It would be a fine thing if we could have the same kind of inspection in every state of the Union, all working in co-operation under one head.—C. L. Duax, Chicago.

• • •

WESTERN NEW YORK, November 7.

Weather: Cool weather during buckwheat bloom shortened the possible buckwheat honey crop considerable. To begin with, the acreage was far below normal and the growth in many places very uneven and stunted, so that altogether the crop is way below normal. September and October gave us considerable fine warm weather and showers, which resulted in a fair flow from goldenrod and asters where these plants had not been too severely damaged by drouth. This has put most colonies in fine shape as to stores and young bees. Colonies are in much better condition to go into winter than they were a year ago.

Honey Prices: Honey has been selling pretty good. Most large lots have already left the producers and are in the hands of large distributors or have gone direct to the consumer. Prices have averaged at least a cent a pound above those of a year ago.

Miscellaneous: The fall showers have greatly improved the appearance of clover. New seedings are generally very poor, but older stands of clover are looking pretty good over most sections.

The regular winter meeting of the State Association we understand is to be held on December 4 and 5 at the Onondaga Hotel, Syracuse.—H. M. Myers, Ransomville, New York.

FLORIDA, October 28

Weather: The shortening of the days is the only sign we have of approaching winter. Yesterday, the thermometer registered 88 degrees for the highest during the day and the lowest report for the state was 68 degrees. The northwestern part of the state has had very little rain since August, but here in the central part near DeLand we have had considerable during the last month.

Honey Crop: All surplus honey plants are through yielding for this season. The white pursley yield was light as this plant was not up to standard owing to extremely dry weather. It is still yielding lightly and will continue until we have a killing frost. Some nectar is being gathered from goldenrod both here and in northwestern Florida, but in central Florida the flow is very light.

Honey Market: Retail sales are fair with very little if any increase in price over last season. Most if not all the larger producers in DeLand and Choctawhasse River section have sold their crop for 1936.

Miscellaneous: Colonies are in good condition for bees and brood, in fact, better than a year ago but are light in stores where last crop was extracted too closely. Bees have used an unusual amount of honey rearing brood in late summer and have brought in just enough to stimulate brood rearing. This may mean a shortage of winter stores unless we have a mild winter similar to 1933 and 1934. During that season bees used very little of the honey left for stores as they brought in enough for their needs all through the winter months. We were forced to extract before our orange flow. Colonies in northwestern Florida have stored more honey during this summer and fall than have bees in this locality. But winter stores generally are only about 50 per cent of what they were last year at this time. This will call for more work and expense than usual.

Bees are still on summer locations and must soon be moved back to tupelo locations in northwestern Florida. This is quite an expense but can not be avoided, especially in regions where valuable bee pasturage is destroyed by fire. People are beginning to realize the destruction that wood fires are causing and great strides have been made in the past few years to eliminate this.—N. Forehand, Deland, Florida.

NEW JERSEY, October 15.

Weather: Generally the weather throughout New Jersey this fall has been favorable for beekeepers. The areas in the state that were affected by the dryness this summer have received sufficient rainfall to stimulate the growth of the fall flowers. It seems nothing short of remarkable how plants react to the stimulus of the little rain and shows how much our industry depends upon the climate for its success.

Honey Crop: It was noticeable during a recent tour, conducted by the State Beekeepers' Association in parts of Morris and Somerset counties that every apiary visited had exceptionally good crops of very fine honey. This condition applies generally throughout the clover section of northern Jersey. One large producer reports that the honey flow from clover in the vicinity of Salem was very poor, but that other sources in that area were satisfactory on the late crop.

The crop in this suburban locality (Essex County) was the best in a number of years. The rainfall during the summer months was just sufficient at all times to maintain vegetation in good condition. This enabled local beekeepers to secure a mid-season flow, an unusual event for us. The fall flow has been better than average, due probably to the absence of continuous heavy rain which often occurs during this period and also to the fact that plants were in prime condition from the favorable weather throughout the season.

Miscellaneous: Bees in the northern part of the state are going into winter quarters in better than average condition. Sussex and parts of Warren counties were below normal in honey production, especially when run for comb honey. The fall flow has not only stimulated brood rearing, but in many cases has filled the brood chamber.

Some beekeepers have been concerned over the prices quoted in the Government market reports for New Jersey honey. A little investigation reveals the fact that a considerable number sell their honey wholesale at very low prices. The only excuse for selling honey at less than it is really worth, wholesale, is the lack of

XUM

sales ability. That there is a good demand at a better price is attested by the fact that these beekeepers can dispose of their crop for cash almost as soon as extracted. The small beekeeper is often the victim of much abuse and derision from the larger producer. One thing in favor of the small beekeeper is that he usually maintains or far exceeds the market price for the crop. With such a large number of consumers practically at our door there seems little reason why New Jersey beekeepers should fail to secure a fair price for their product.—John Conner, North Caldwell, New Jersey.

• • •

KANSAS, November 12.

Reviewing the past year, the state experienced a rather severe winter in the northeast portion which was conducive to heavy winter losses. South of the Kansas River these severe winter conditions did not penetrate. Winter losses in the northeast portion of the state were about twenty-five per cent. The beekeepers considered themselves rather lucky in not having heavier losses. The surprise winter attack came about midspring during the first week of April. On the 3rd, 4th, and 5th, eastern Kansas experienced winter weather. Temperatures dropped down to 5° to 8° F. above zero. Colonies which were depleted due to winter conditions received an extremely severe jolt during the first week-end of April. Following this belated return of winter conditions, colonies had only a population of about 500 bees and a queen. This increased tremendously the winter losses. Many of the commercial beekeepers, to replace those losses, bought package bees during the spring.

Due to the delayed winter conditions in the early spring, colony conditions were about two weeks behind normal. Colonies that were strong during March built up rapidly, making colony conditions during the forepart of May two weeks in advance of normal.

With the continued advanced colony and plant conditions, the honey flow began about June 5 in northeastern Kansas and was finished June 20, due to the extremely hot, dry weather. This also was true in southern Kansas where conditions were such that a honey flow was possible. Extremely dry, hot conditions prevailed for the remainder of the summer and record-breaking high temperatures occurred during the last two weeks of July.

Some of the beekeepers tried to extract honey during August and had a difficult time doing it. The honey was so thick and heavy that in radial extractors combs were crushed. Where basket extractors were used, extreme care had to be used in the extraction process. Another factor which caused trouble at that time was the high temperatures softening combs, which made it impossible to handle combs which were laden with honey. Uncapping was difficult as well as extraction. Many beekeepers left the work of extraction to be taken care of in September, when temperatures were cooler—still in the vicinity of 100° F—and found that extraction was still difficult due to the heavy body of the honey.

During the extremely high temperatures, colonies reduced brood-rearing in varying amounts and in many cases nearly ceased brood-rearing. During September brood-rearing was actively begun again and carried rather late into the fall. This, with the long summer period without any honey production, made a heavy drain upon colony stores or surplus production of honey. Beekeepers who thought they had a fairly good crop during July, changed their ideas by the first of October. Where colonies have sufficient stores going into winter, the colony condition is good, since there is an abundance of young bees present.

A Farm and Home Week beekeepers' program is being planned for Thursday, February 11, 1937. Speakers of national prominence in apiculture will appear upon this program.—R. L. Parker, Manhattan, Kansas.

• • •

SOUTHWESTERN IDAHO, November 8

Weather: It has been very dry this fall and our first killing frost occurred September 15. A year ago we had several inches of snow which, of course, was unusual for this early in the fall.

Honey Crop: In some parts of the state I understand, some claim their average yield per colony near 300 pounds, but around here 60 pounds will about cover the average. Where bees were located near sunflower the average will be a little higher. The hills were covered with sun-

flower, but it didn't seem to yield much nectar. However, strong colonies were able to store some surplus. The honey is of a golden color.

Honey Sales: Honey in this part of the state seems to be all moved. Most of it moved at 5½ cents for extra light amber. The white honey brought 6 cents. The demand for comb honey is good but no one has any to sell. The stores are selling it two sections for 25 cents; some for 15 cents straight. With the scarcity of this article, it would seem it should bring a better price.

Beeswax: The demand for wax is good. Some are selling for 22 cents at station for yellow wax.

Miscellaneous: Quite a number of producers are talking of packing this winter since last winter so many bees were lost. The favorite method is to heal them in by putting straw around them and throwing dirt over the back of the hive, then cover the tops with tar paper. They are first arranged in rows of several hives. Bees seem to be in good condition for winter.—A. D. Wood, Boise, Idaho.

• • •

MANITOBA, November 10.

Weather: The weather in late October and up to this date has been real cold, too cold for bees to fly. We have had snow but only enough to whiten the ground. Bees have been taken into cellars for the past two weeks. Probably those who put them in first will get the best results.

Honey Crop: Crop reports are coming in at about fifty a day and it is quite plain that the crop of this year brought joy to the hearts of many who have not had a good crop of anything for several years. Along the Red River and east where we have our largest bee population, the returns were not nearly so good as in the past two years, but in the center of the province and further West it ran up to as high as 300 pounds per colony on an average. The month of August was entirely different from that of 1935 in the districts last mentioned and the honey crop increased steadily all through August and early September.

Honey Market: Honey has sold steadily up to about a week ago but now the market seems pretty well loaded. There are still quite a number of carloads seeking a buyer and brokers claim these will need to hold until the first of the year. The quality is extra good this year as the bulk came from sweet clover. The placing of the crop this year has encouraged a part of the province to produce more honey where previously the interest was lagged.

Miscellaneous: Orders for package bees and bee supplies are coming in now from this district and it looks as though there will be a lot of nails driven this winter.

Our inspectors examined 51,000 colonies of bees and we spent $6000 in 1936. The weather was especially favorable for inspection work and we kept them at it as long as they would work. Paid registration made this possible and there will be no kick from the taxpayer who does not keep bees.—L. T. Floyd, Winnipeg, Manitoba.

• • •

VIRGINIA, November 16.

Weather: The weather during September and October has been ideal for bee work. The bees were able to fly most every day. The flowers bloomed very late. There was not a killing frost until about ten days ago. However, the fall flowers did not furnish as much honey as was expected. Most of the colonies were heavy from the main honey flow, especially those which were run for section comb honey. Very little feeding has been done this fall.

Honey Crop: The honey crop was as large as expected. Many beekeepers have averaged as much as ninety pounds, and the quality is of first grade. It is moving as fast as the beekeepers wish, and at a fair price. Few beekeepers try to market their crop in a lump, but prefer to keep their regular customers supplied the year around. Many of the beekeepers attribute the good demand for honey to the work of the American Honey Institute.

Miscellaneous: Quite a few beekeepers from Virginia plan to attend the International Beekeepers' Conference at San Antonio, Texas.

The winter meeting of the Virginia Beekeepers' Association will be held on December 10, Chamber of Commerce Building, Lynchburg, Va. The morning session will begin at 9:30. A good meeting is anticipated. All beekeepers are invited.—H. W. Weatherford, Vernon Hill, Va.

XUM

ONTARIO, November 10.

Weather: Another month has passed and today with a cold northwest wind blowing, we are glad that the bees are all fed and packed away for another winter. With two of our boys away on their annual deer hunt, the pater is staying at home looking after the small fur ranch containing some foxes and mink.

Honey Crop: As to the crop for 1936 I have little to add that would differ from my last report. While the crop is undoubtedly larger than anticipated at close of the clover flow, yet the demand has been very good and honey has sold rapidly. A recent canvas of wholesale houses in Toronto which handle honey, convinces me that there is very little in storage; also there appears to be but very little honey left in the hands of producers. This condition means that there is not likely to be much carry-over of the 1936 crop and that, of course, augers well for sales of new crop to those fortunate enough to be in a location where the clover is all right.

Beeswax—Demand for beeswax appears to be good but as we have not prepared ours for market as yet, I have not asked for nor received any direct offers.

Miscellaneous: That honey I referred to in the last issue that had not granulated at that time, is still quite liquid, although showing some granules. Two jars of this honey sent to the Dominion apiarist at Ottawa at his request, has been analyzed and a report sent to me. As might be expected for this year, it grades No. 1 in every respect, the moisture content appearing to be a bit out of the ordinary and this may account for the retarded granulation. The report from the Dominion apiarist already referred too, stated that at that date they had received 44 samples from Ontario and the average moisture content for the lot was 16.4 per cent. Our sample contained but 14.3 per cent. Nothing was done to this honey in any way and we had several tons just like it. Incidentally, I might say that we have stored away several tins of this honey for our own use as we do not expect to have any like it next year—quite sure about that—and I am doubtful if we will ever have honey again just as good in our locality. We sent a small sample to some friends in the South and they appeared to think that they had never tasted anything just like it. But it just happened to be that way and in no sense do we wish to convey the impression that the quality was due to anything in way of management on our part.

Precipitation has been heavier than usual during the past month here in central southern Ontario and as we had many warm days, fall wheat has made a great growth and pasture has been good. In localities where the clover was not killed by drouth in August, I would surmise that the clovers will go into winter in fine condition. While we are sorry that little clover is in evidence around here, yet it is fine that other localities will be benefited by good weather conditions, and perhaps our turn may come next year or, rather, in 1938. As we still feed light colonies in the fall instead of using two full-depth brood nests as many are doing today, naturally I was interested in that article by Mr. Pease of Connecticut. Either his brood nests have more honey in them before feeding, or consumption of stores must be much lighter than we have here, even in cellar wintering. We usually feed about three ten-pound pails on the average and then often find some colonies short of stores in the spring. Yes, I know that hosts of beekeepers will say or feel like saying, "why do you not leave an extra body of combs filled with honey and avoid all the work and expense of feeding?" That is too big a question to be answered in this department, but, briefly, I might say that I am convinced we can use one brood nest and feed in the fall to best advantage.

As to the work, with about 800 feeders a lot of colonies can be fed in a hurry. An apiary is always fed all they want at one trip and syrup is prepared in a short time as 200 pounds of sugar is dumped into 100 pounds of hot water and stirred for a few minutes—that is all there is to it. One man, with our equipment, crude as it is, can easily prepare 3000 pounds in a day and two apiaries can be fed in the same time by two men using the truck. Surely we would be glad to dispense with feeding and when convinced that it will pay us to do so, then we will change to a better system.—J. L. Byer, Markham, Ontario.

American Honey Institute Notes

Guest Editor,
Newman Lyle, Sheldon, Iowa.
One of the largest beekeepers in Iowa. He has been active in organization work as well as an inspector and has also taught beekeeping in the University at Ames.

This spring started with the greatest rush we have ever known. July 4 with its terrible hot wind blasted our hopes of a 1936 honey crop. After several days of this terrific heat we were surprised to find that the bees were increasing their activity and storing a small surplus. When the heat did break we had a nice fall flow from sweet clover and the season finished with a fair crop.

We thought the small supply of honey would soon sell, but imagine our surprise when we learned that honey buyers were actually begging for honey by the millions of pounds. The Institute with its continued publicity has worn down consumer resistance until millions of people are truly "Honey Conscious." Advertising agencies tell us that continual advertising is what sells goods, not the big splurge, then oblivion. The Institute has not only made consumers honey conscious, but also food packers and even the grocer. Honey Krust Bread, which last year contained six million pounds of honey, honey breakfast food, honey crackers, honey candies and many other honey made products are bidding for the housewife's attention.

Only last week a grocer told me that honey had changed from a slow seller to an item with a fair turn-over. It compares favorably with the more popular jams and preserves. In fact, the sale of honey in our little city has been so fast grocers have telephoned me to bring in a fresh supply of all size of containers.

Following up some of the sales to learn the reason for people buying honey, instead of having it sold to them, I was told, "I saw a recipe in The Ladies' Home Journal," or some other popular magazine, or "I found a recipe in a sack of flour that sounded so good I wished to try it." We beekeepers who have supported the Institute for years know that the publishing of honey recipes is no accident. We know the Institute has spent months and in some cases years persuading food editors to publish tested honey recipes furnished by the Institute.

When a great company like Pillsbury's print six million (6,000,000, mind you) folders to put in their sacks of flour and in this folder a recipe for Fig Honey Bread, the honey advertising is enormous. Gold Medal prints millions of recipes for Honey Chocolate Cake and places them in their sacks of flour, giving more publicity to our product honey. **The effect, as the movie people say, "is colossal."**

The Institute makes several important contacts with advertising departments of food companies each year. The Institute is the beekeepers' contact medium. I think it necessary for us to have the Institute prosper that it may continue making these contacts. Therefore, I am sending in my annual pledge of one dollar per ton and my check right away. **This year honey is selling readily. Next year we might have a bumper crop and need the Institute to further increase honey consciousness among consumers.**

As a special inducement, the Institute is giving with each membership of $3.00 or more a wonderful "drip cut dispenser" that will not string honey over the table cloth when used. In the kitchen it is mighty handy for dispensing honey into the measuring cup. Many of us will use this as a sales stimulator, giving it as a premium with a large sale of honey, or perhaps for the return of a certain number of 5 or 10 pound pail labels. The use of this dispenser as a sales stimulator with the tested recipe beekeepers can buy from the Institute will build up a large consumer demand that properly cultivated will be permanent.

I suggest beekeepers write the American Honey Institute for samples of honey leaflets and inquire about the special

(Continued on page 755.)

XUM

Just News

The new revised folder, "It's a Honey," is now available at American Honey Institute, Madison, Wis., at 10 cents per 100.

•

The Oregon State Beekeepers' Association will meet in Portland on December 7 and 8. Prof. R. H. Kelty, of Michigan, will be the guest speaker.

•

"The Care of Bees," is the title of a new circular, No. 153, by E. S. Prevost, Extension Bee Specialist for Clemson Agricultural College, South Carolina. This is written in understandable language and especially suited to the beginner.

•

The Empire State Beekeepers' Association will hold its annual meeting in Syracuse, December 4 and 5, at Hotel Onandaga. Among the speakers are Geo. H. Rea, Sadar Singh of India, E. T. Cary, Dr. E. F. Phillips, M. J. Deyell, and Jay Gelder.

•

We call attention to the new 70-page circular, or bulletin No. 100, by J. E. Eckert, of California Agricultural Extension Service, University of California, at Berkeley, entitled "Beekeeping in California." This circular is well illustrated and the contents alphabetically arranged. While this bulletin is particularly suited to the needs of the beginner, the commercial beekeeper will also find it interesting and helpful. It is well worth a careful reading.

•

The Utah State Beekeepers' Association will hold its annual convention at the Newhouse Hotel in Salt Lake City, Utah, December 14 and 15. Prof. R. H. Kelty, President of the American Honey Institute, will speak on the work of the Institute and also on practices of foulbrood control. Dr. A. P. Sturtevant of the Intermountain Bee Culture Field Laboratory at Laramie, Wyoming, will be one of the speakers.

•

A new bulletin by E. M. Hildebrand and Dr. E. F. Phillips entitled, "The Honeybee and the Beehive in Relation to Fire Blight," a report from the Journal of Agricultural Research, Washington, D. C., is now available for the price of 5 cents a copy domestic and 8 cents foreign. Write to Superintendent of Documents, Government Printing Office, Washington, D. C.

•

The Annual Short Course in beekeeping will be held at the University of Manitoba, Winnipeg, January 18 to 29. About 50 lectures and demonstrations will be given, covering all aspects of practical beekeeping. In addition to Prof. Mitchener and Mr. L. T. Floyd, who will give most of the lectures and demonstrations, approximately eight other speakers from university departments will appear on the program. During the last week of the course the Manitoba Beekeepers' Association will meet for two days in their annual convention.

•

The Washington State beekeepers will hold their thirty-second annual convention in the Winter School Building of the Western Washington Experiment Station, located one mile west of Puyallup, Washington, on December 8 and 9. Prof. R. H. Kelty, of Michigan, will be guest speaker, representing the American Honey Institute, and will give an address on commercial beekeeping. A draft of the revised laws regulating apiaries will come before the convention for its approval, preparatory to having it introduced into the legislature that convenes in Olympia next January.

•

The annual convention of the California State Beekeepers' Association will be held in San Bernardino on December 2, 3, and 4, or just following the big convention in Texas. Those from the East or middle West who would like to continue on to California after the international meeting in Texas, will be more than welcome. One interesting feature of the convention will be the display of a number of portable extracting outfits, as well as new and old bee equipment. This alone will attract many beekeepers and be a valuable portion of the convention.

Gleaned by Asking

THE EDITORS

How to Use Honey in Automobile Radiators

Question.—Would it be all right for me to use extracted honey in my radiator and, if so, in what proportion?—John A. Denny, Indiana.

Answer.—Honey and hot water thoroughly mixed in the proportion of fifty-fifty can be used in automobile radiators if all the connections are tight. Be sure to mix thoroughly before putting in the machine. A better mixture, and one that will circulate better on cold mornings, before starting, is one-third alcohol, one-third water and one-third honey. Thoroughly mix, as stated before. The honey water mixture alone is a little too stiff for circulation on cold mornings. It can be used if motor is started, allowed to run for a couple of minutes and then stopped. The mixture will warm slowly when it will circulate freely the rest of the day or as long as the mixture is warm.

Sterilizing Hive Parts

Question.—I would like to know what solution would be best and most economical to scrub bee hives in cleaning up American foulbrood. These hives with the exception of the new ones were placed over the fire when the bees and honey were burned. Now, would it not be advisable to scrub them all with some solution? And could this not be used on the queen excluders and inner covers? Some of this equipment has been out in the weather since the latter part of July or beginning of August.—Avery Musser, Pennsylvania.

Answer.—Boiling infected hive parts in water for twenty minutes will make them safe for future use. It is important that the hive parts be kept submerged in the boiling water during the twenty minutes. You mention the fact that you have already burned the hive out. It would, of course, do no harm to wash the hives thoroughly in scalding hot water in order to remove any traces of honey on the outside of the hive. If you boil your queen excluders for twenty minutes, you had better pile them up after removing them from the water, so that they may not become warped out of shape. Some beekeepers recommend boiling diseased hive parts in solution of lye water. This lye solution is unnecessary if hive parts are kept submerged in boiling water for 20 minutes. Furthermore, lye will remove paint from hives.

Do Workers Separate Fighting Queens?

Question.—Please inform me as to the correctness of the statement that worker bees separate fighting queens when it becomes apparent that they will kill each other, leaving no ruler for the hive.—Curtis Townsend, Florida.

Answer.—So far as we are able to learn, there is no valid proof that bees will intervene in a fight between queens when it is evident that both may be killed. It is our opinion, and only an opinion, that the bees will let the queens fight it out, no matter what the results might be. It is our guess that both queens are seldom or never killed. Both queens can not very well get themselves into a position to sting at the same time, because it is a sting lodged in the body of the queen that causes her to die. In the case of a duel between a laying queen and a virgin, the latter would likely be the victor because she is more active and could curve her body more quickly to deliver the fatal sting.

Does Queen Lead Out Swarm?

Question.—In swarming, do the bees leave the hive first and the queen bee last, or does the queen leave the hive first and the bees later? I know from experience that the bees leave the hive first and that the queen follows, but I want to know which is the accepted theory.—Edmund Mrovka, Illinois

Answer.—On the question of whether the queen leads out the swarm or whether the swarm precedes the queen, I refer you to page 472 of "Confab," in August, 1936, Gleanings in Bee Culture, where this question is discussed. We may conclude that the queen rarely leads out the swarm. The general rule is that the bees rush out and the queen follows.

Removing a Few Combs from Full Food Chamber

Question.—I am wintering my bees in a brood chamber and food chamber. Some of the upper stories are quite full of honey. Would you advise leaving about six or seven frames of honey and extracting the rest? Will the honey not consumed during the winter by the bees granulate and therefore be a loss?—Thompson W. McKinney, Pennsylvania.

Answer.—Food chambers should be well filled. It is an advantage also to have some honey in the combs of the brood chambers. This allows an ample amount of stores for colonies and this is what counts, especially during a severe winter. Last fall we did remove a few full combs of honey from some of our heaviest colonies to feed other colonies, and this spring we found ourselves putting

(Continued on page 755.)

XUM

Heads of Grain from Different Fields

Visit from British Bee Supply Dealer

What a pleasant surprise when Mr. Robert Lee of Uxbridge, England, with his sister, dropped in to see us recently during a brief stay in this country. Mr. Robert Lee and his sister are carrying on the largest bee supply business in Great Britain, this brother and sister representing the third generation. After having had business relations for over 40 years with a house such as Lees of England, first under James Lee & Son, and now under Robert Lee, it was a distinct pleasure to have them with us for the few hours they had at their disposal.—C. G. Tollafield, Sales Manager for The A. I. Root Company, Medina, Ohio.

Mr. Robert Lee, Uxbridge, England, and his sister.

• • •

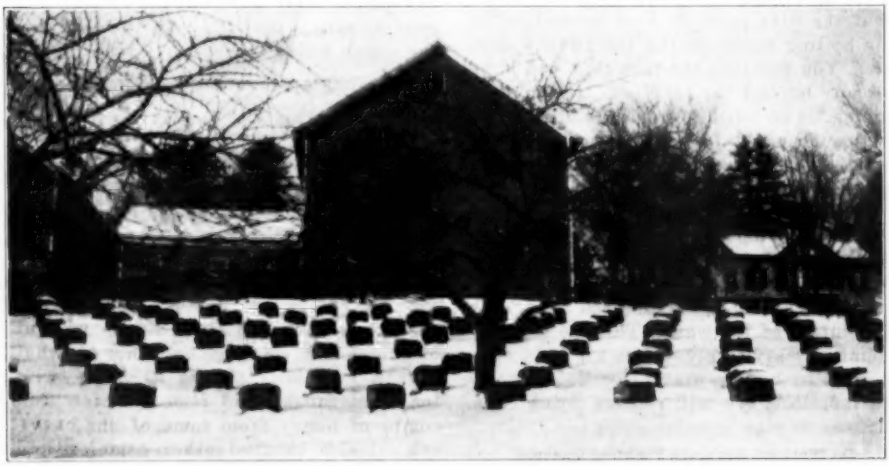
Hurrah for Massachusetts

The beekeepers of Berkshire County, Mass., enjoyed a good year. Beekeepers who took good or even fair care of their bees came out with a good crop. The average per colony production in Massachusetts is about 30 pounds, while the average for Berkshire County is about 75 pounds. For 1936 the average taken for members of the Berkshire County Beekeepers' Association was close to 100 pounds, while 160 to 180 were removed from exceptional colonies. The highest comb honey crop was 180 pounds. Out of the whole county there are but three areas, twenty by four miles, where there is any amount of honey produced.—William V. Kibby, Pittsfield, Mass.

• • •

Only 3.3 Per Cent Winter Loss

The winter scene of my home yard was taken a year ago. This yard consisting of 120 colonies, was wrapped in tar paper about November 1, and was not touched until May 1. My loss was only four colonies. This yard was equipped with food chambers which I recommend for such packing. I leave these food chambers on until about July 1, at which time I find



A fine-looking apiary in New York State, which suffered very little winter loss.

them containing approximately six frames of brood each. Then the food chambers are removed and taken to an outyard and given either laying queens or ripe cells with empty hives placed on top. I find that 80 per cent of these hives, by so doing, build up for the buckwheat flow. It also takes care of winter losses and spring dwindling.—W. H. Keyser, Schenectady, N. Y.

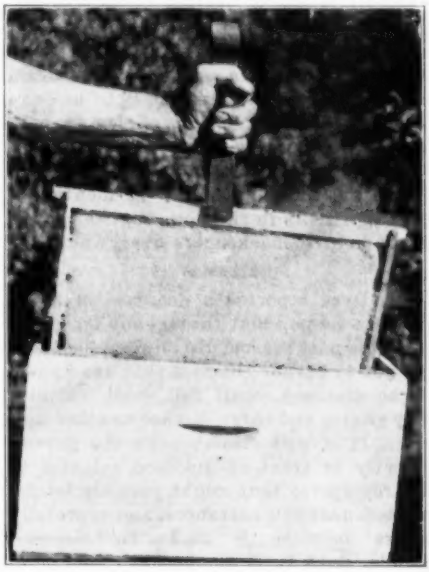
• • •

Honey Is an Alkalinizer

Perhaps you've been told that sugar is an acid-forming food and should be used chiefly as a source of energy. Nutritionists have been putting honey in somewhat the same category, as it usually contains from 75 to 80 per cent sugar. However, the increased use of honey for confectionery purposes and in baking has inspired one scientist to investigate its mineral content and definitely determine whether it should be classified as an acid-forming, alkaline-forming, or neutral food. He collected 11 samples of honey, representative both of light and dark varieties. These samples were subjected to accurate chemical tests. When his results were calculated and tabulated he found that the average alkaline value was 1.5. This figure means little unless we compare it with the alkaline value of some common foods, whereupon we see that it compares rather favorably. For example, the alkalinity of asparagus is 0.8; of pumpkin, 1.5; of turnips, 2.7; of apple, 3.7; of mushrooms, 4.0; of cabbage, 4.3; of orange juice, 4.5; of cauliflower, 5.3; of lemons, 5.4; of bananas, 5.6; of oranges, 5.6; of tomatoes, 5.6; and of potatoes, 7.2.—"Sunset," Vol. 77, No. 4, October, 1936, p. 40.

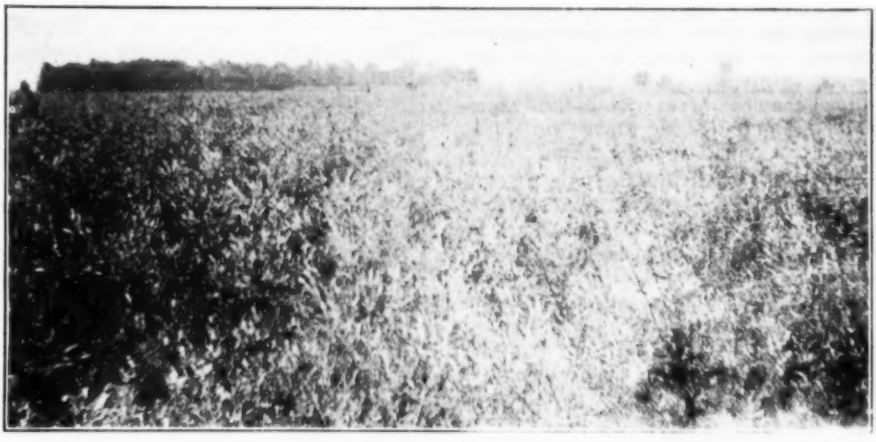
The Tongs Are Good, But, Oh, That Honey

The illustration of my hive tool, or rather frame-lifting tongs, will give you a good idea of the device and how it



Such perfect combs should be carefully handled.

works. It certainly is a great help in the apiary for lifting the first combs out of hives. With these tongs even the worst propolized frames are easily lifted without damage to hive or frame.—Ed. B. Klimashesky, Grand Forks, N. D.



Sweet clover in western Ohio started up after timely rains, having been previously dried up.

XUM

The Toronto Bee Meeting

The fifty-seventh annual convention of the Ontario Beekeepers' Association was held in the King Edward Hotel, Toronto, November 18 to 20. It was a splendid meeting. There wasn't a dull moment.

Credit is due R. Harold Thompson, the president and chairman, for the splendid manner in which he handled the meeting. Also Dr. E. J. Dyce, secretary and treasurer and provincial apiarist, is to be commended for his untiring efforts in connection with the general program set-up.

It is not our purpose to give the details of the meeting, but rather to mention a few high spots in the hope that they may be of help to beekeepers everywhere.

Disease

Dr. Dyce reported a decrease in A. F. B., only 4.4 per cent throughout the province this past season. He advised beekeepers not to harbor colonies that are known to be diseased, until fall. Such colonies may swarm and carry disease to other apiaries. It is well also to burn the ground directly in front of diseased colonies to destroy spores that might possibly be deposited near the entrances, and especially where increase is made on diseased stands. Both C. B. Gooderham, Dominion Apiarist, and Dr. Dyce emphasized the fact that disinfectants, so-called, for treating combs infected with A. F. B. are not efficient and can not be relied upon.

Wintering Bees

The majority of Ontario beekeepers prefer to winter colonies packed singly rather than in groups. Provided colonies are populous and have ample stores, a moderate packing is better than an excessive amount. An increasing number of beekeepers winter in double brood chamber, or food chamber, hives with natural stores while some prefer to winter in single-story hives and feed sugar syrup.

Queen Rearing

A number of commercial beekeepers are rearing their own queens. Methods are being devised by which queens from the best producing stock are reared only when the season is right, that is, when there is an abundance of nectar and pollen. This requires manipulations that are properly timed and planned in advance. Larvae of the proper age (somewhere between 12 and 24 hours old) should be used for grafting. The larvae should be fed lavishly. There should be an abundance of drones of good quality in the apiary during mating time.

Swarm Control and Apiary Management

There appears to be a definite trend towards simplified apiary management. Uncalled-for manipulations in the apiary are being cut out. Supplying comb space or supers in ample time is one of the most effective swarm-control measures. A few commercial men are splitting strong two-story colonies just prior to or at the beginning of the main honey flow, placing empty supers of combs and queen excluders between the two brood chambers and rearing young queens in the queenless brood chambers, and later uniting the temporary divisions, eliminating old queens and retaining young ones. This procedure not only controls swarming but accomplishes requeening. Beekeepers should make a careful study of conditions that prevail in their localities and then apply the management that best fits their conditions.

New Honey Strainer

Mr. W. G. Le Maistre of Guelph Agricultural College, made a splendid talk on "Proper Straining and Preparation of Honey for Market." He showed a new type of honey strainer designed recently by the college. It appears to have merit. The strainer consists of a honey tank 30 inches in diameter by 30 inches in depth containing four cylindrical strainers, 7 inches, 9 inches, 11 inches and 13 inches

(Continued on page 757.)

Bees on an inner cover of a hive lined up drinking sugar syrup that had leaked out of a feeder can.

BUY AND SELL HERE

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

FINE clover honey, $8.40 per case. Edw. Klein, Gurnee, Ill.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

CLOVER, comb and extracted. Howard Grimble, Holcomb, N. Y.

FOR SALE—New comb and extracted honey. H. G. Quirin, Bellevue, Ohio.

CLOVER and fall honey. Sample, 10c. Kenneth Gallant, Meridian, N. Y.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

WHITE clover comb and extracted honey. Porterholm Apiaries, Adrian, Mich.

FANCY new crop white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

NEW crop clover extracted and comb honey for sale. H. E. Crowther, Jefferson, Ohio.

EXTRACTED honey, any kind, any quantity. H. Blitz, P. O. Box 3438, Philadelphia, Pa.

ORANGE, palmetto, or amber honey in new sixties. Peter W. Sowinski, Fort Pierce, Fla.

CHOICE white clover honey in new 60's. Sample, 15c. Noah Bordner, Holgate, Ohio.

NEW crop white extracted, case or ton lots. Sample, 10c. Harry C. Kirk, Armstrong, Iowa.

WHITE clover and basswood honey at 8c, f. o. b. Hamel, Minn. S. Hyberg, Hamel, Minn.

NEW crop finest clover honey in new 60-lb. cans. Price on request. Sample, 10c. H. B. Gable, Romulus, N. Y.

WHITE CLOVER-ALSIKE, alfalfa, and light amber honey. New cans. Frank Rasmussen, Greenville, Michigan.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

NO RAIN—Our extracted clover honey is exceptionally fine, heavy bodied. Case or car. J. N. Harris, St. Louis, Mich.

TUPELO HONEY—Will not granulate. Barrels and 60 lb. cans, 7 and 8 cents per lb. Anthony Bros. Honey Co., Apalachicola, Fla.

OUR 1936 crop of Michigan clover honey is now ready for the market. Write us your requirements. E. D. Townsend & Sons, Northstar, Michigan.

HEAVY fancy white comb, $3.75 case; 12-oz., fancy white, $3.50; No. 1, $3.25; mixed, $3; white clover extracted, 8c. Light amber, 7½c. C. B. Howard, Geneva, N. Y.

AMBER in new 60's, 7c. E. S. Miller, Valparaiso, Indiana.

CLOVER, comb, standard beeway sections. C. Holm, Genoa, Ill.

CHOICE clover honey in 60's. Sample, 10c. Martin & Fuller, Owosso, Michigan.

CHOICE quality extracted clover honey, 7½c lb. John Bour, 81 West Davis St., Tiffin, Ohio.

Sweet clover honey, granulated, unheated. Sample, 10c. Utendorfers Apiaries, Gaylord, Minnesota.

CHOICE white northwestern Ohio clover honey in new 60's. Sample, 15c. Ray Hiltner, North Creek, Ohio.

FOR SALE—Fancy white clover honey in 60-lb. cans, 7½c lb. Sample, 15c. Jos. H. Hoehn, Ottoville, Ohio.

QUALITY white clover extracted honey in new sixties. State your requirements. L. S. Griggs, 711 Avon St., Flint, Mich.

NORTHERN Michigan amber honey in 60's, 7c; 5-pound pails, $4.80 doz.; sample, 15c. Lewis A. McIntire, Boyne City, Mich.

BLUE VINE honey in 60-lb. cans. Exceptionally good, very mild flavor, does not granulate, 8c. H. A. Ross, Poseyville, R. 1, Indiana.

HONEY FOR SALE—Water-white clover comb and extracted; also light amber and dark honey. S. P. Clarke, 110 Pond St., Providence, R. I.

SPECIAL—Fancy and No. 1 comb mixed order, wrapped six and eight case lots, $3.50 per case. Bakers' extracted, 7c; white, 8c. N. B. Querin, Bellevue, Ohio.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyers' financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—White extracted, comb, any amount. Quote best price first letter. Central Ohio Apiaries, Millersport, Ohio.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Car lots or less; clover extracted honey and light amber, new cans. Clover Blossom Honey Co., 712 Kossuth St., Columbus, O.

XUM

WANTED—White, amber, and overheated honey. State price. C. Jankowski, Russell, Ill.

WANTED—Dark honey, also capping melter honey. Edw. Klein, Gurnee, Ill.

CASH WAITING for comb and extracted honey; all grades. S. P. Clarke, 110 Pond St., Providence, R. I.

CASH PAID FOR COMB AND EXTRACTED HONEY. Mail samples and best price. C. W. Aeppler Company, Oconomowoc, Wis.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Company, 108 West Sixth St., Los Angeles, Calif.

FOR SALE

STRAW BEE HIVES—G. Korn, Berrien Springs, Mich.

PASTE for tin or glass at 10c per gallon. Send two dimes for recipe. Lewis Syverud, Aberdeen, S. Dak.

YOUR wax worked into deep cell medium brood foundation for 15c per pound. Fred Peterson, Alden, Iowa.

WE carry a full line of beekeepers' supplies. Honey taken in exchange. Prairie View Apiaries, 12213 12th St., Detroit, Michigan.

ELECTRICAL uncapping knives with transformer, 110-120 volts, 60 cycles, $14.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

HOFFMAN FRAMES, mail order brand, accurately made, $35 per 1000, f. o. b. Medina; while stock lasts. The A. I. Root Co., Medina, Ohio

WAX worked into comb foundation, accepted in trade for supplies or bought. Write for our proposition and shipping tags. Walter T. Kelley, Paducah, Ky.

QUALITY bee supplies. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies. The Hubbard Apiaries, Onsted, Michigan.

BEST QUALITY soft white pine Hoffman frames, $30.00 per thousand. Complete line of bee supplies manufactured by us. All prices the lowest. Free catalog. The Walter Kelley Co., Paducah, Ky.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

BE prepared against high winds and meddlers. Install now—Whitehouse bee tight hive cover holder. Price, 15c each. See October ad. R. S. Whitehouse, 275 La Grange St., West Roxbury, Mass.

WITH the aid of a well known candy manufacturer we can now supply Handel's Honey Bars, wholesale and retail. Send $1.25 for 24 bars, postpaid. Valley View Apiaries, Chas. D. Handel, Prop., Savanna, Ill.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

SPECIAL — While stocks last. We have a limited supply of slightly damaged copies of the previous edition of "Starting Right with Bees." Price, 30c postpaid. We also have some damaged copies of the new A B C and X Y Z of Bee Culture, which are priced at $2.00. The A. I. Root Co., Box G-7, Medina, Ohio.

EDITORIAL

(Continued from page 738.)

producers, in a year of scarcity, sell the large bottlers at so low a figure that these bottlers, in the face of the honey shortage, can wage a price war among themselves? Someone starts it, someone else gets in a panic, and the mischief is done.

And why should butter be retailed at 45 cents a pound and good honey at 20 cents a pound, or, as has been made possible by the foolishness of certain producers who were uninformed as to the true state of affairs, 15 cents, 12 cents, and even 10 cents?

It is generally agreed that the price of honey depends, to a certain extent, upon the price of sugar. Why does it not depend upon the price of butter? True, sugar is a sweet and honey is a sweet. However, it is just as true that honey is a spread and butter is a spread.

Honey is still a luxury, in spite of the good work of the American Honey Institute. The average family does not yet have the buying power of former years, even though conditions are admittedly better. It has been stated more than once that if there had also been a short crop of sugar, honey prices would have advanced sharply in carload lots. The price did actually advance from ½ cent to 1 cent in carload lots. But just why should honey be held down by sugar?

Has the time come when beekeepers and all interested in the sale of honey, should begin to point out the possible saving in butter when honey is used? Butter is selling in many groceries at 45 cents a pound; the same grocers may have honey at 20 cents a pound—less than half the cost of butter. The ideal plan is to substitute honey for butter, but few can be expected to do this. Why not mix honey and butter together on the table? Such a spread is more convenient, more wholesome than butter alone, tastes better and it costs less.

Honey gate for 60-lb. cans. Screw it on your can of honey or other liquid and you are ready to fill jars or pails. It eliminates splashing and dripping, saves time and labor. Works well with hot or cold liquid. Well made, nickel-plated. No sticky floors to clean up. Measure across top of cover for size wanted. For 1¾ to 3 inch covers. Only $1.00, plus postage. Weight, 1 lb. **ERNEST FAHLBECK, 406 South Springfield Avenue, Rockford, Ill., or C. W. Aeppler Co., Oconomowoc, Wisconsin.**

PROFITABLE, well established mail order honey business doing a national business, located in northwestern Ohio. Will make you an excellent income from the start. Capital required, $5000 cash. Please do not write unless you have the money and mean business. Box 200, care Gleanings, Medina, Ohio.

BEES AND QUEENS FOR SALE

ITALIAN queens. W. G. Lauver, Middletown, Pa.

SOLD out for season. Booking packages for spring delivery. J. M. Cutts & Sons, Montgomery, Alabama.

WE are now booking package bees and queens for 1937 delivery. Inquiries invited. Citronelle Bee Co., Citronelle, Alabama.

GOOD three-band Italian queens, 75c each. Mailed any time, anywhere. D. W. Howell, Shellman, Georgia.

"SHE-SUITS-ME" queens. See page 186 of March number. Send for price list. Allen Latham, Norwichtown, Conn.

WHEN in need of choice queens from hustling three-banded Italian stock, write White Pine Bee Farms Rockton, Pa.

THREE-BANDED Italian queens, 75c each, any number. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

READY to book your order for Caucasian bees and queens, 1937 delivery. Lewis & Tillery Bee Co., Greenville, Alabama.

49 COLONIES in standard 10-frame hive (guaranteed no disease) including all supers and equipment. I can keep bees for winter. Arthur Hannon, New Franken, Wis.

QUEENS—Italians, Caucasians, 75c each. 15% discount to dealers. Prompt, efficient service. Weaver Apiaries, Navasota, Texas. Agents for Pinard nailless queen cage.

CAUCASIAN bees and queens: We are booking orders now for 1937 delivery. Send us your orders early and name delivery dates wanted. Shipments start about April 5. Thanks to our many 1936 customers. Bolling Bee Co., Bolling, Alabama.

A NEW SERVICE FOR BEEKEEPERS—Three-banded Italians, mailed in our special introducing cage. Guaranteed to safely introduce to normal queenless colonies, or replacement free if our directions are followed. One to five, 75c each. Silver Run Apiaries, Phenix City, Alabama.

DAIRY GOATS

DAIRY GOAT JOURNAL. Dept. 618, Fairbury, Nebr. 50c yearly; 3 months, 10c.

ELECTRIC PUMPS

WORLD'S SIMPLEST ELECTRIC PUMP—Only one moving part. Nothing to wear or cause trouble. 28-foot suction lift. Operates cheaply. Money-back guarantee. Thousands satisfied users. Write for free catalog. Dept. 2512, Micro-Westco, Inc., Bettendorf, Iowa.

HELP WANTED

WANTED—Two men for 1937 season. Edw. Klein, Gurnee, Ill.

WANTED—Queen breeder for the coming season. Give reference, age and salary wanted. N. Forehand, Deland, Fla.

GLEANED BY ASKING

(Continued from page 749.)

back combs of honey into these same colonies to make up a deficiency in stores. Bees do require a considerable amount of honey during the early spring months for brood rearing, especially during a cold spring. We suggest, therefore, that you leave your food chambers as they are. If, perchance, there is some honey left late next spring you can use it for making increase in your apiary, or leave it to help fill food chambers for the following winter. If some of the left-over honey should granulate early in the spring it will likely become liquid when left with the bees during the hot summer months.

• • •

AMERICAN HONEY INSTITUTE NOTES

(Continued from page 747.)

services it can give them. Members are entitled to Institute service at cost. Get your name on the Honor Roll by paying your membership pledge before December 31, 1936.

QUALITY BRED ITALIAN BEES AND QUEENS FOR 1937

Another season is fast approaching and we have every reason to expect an increased demand over the past season. We have spared neither labor nor expense to be better prepared to take care of your orders for any quantity properly and to make the season one of the best. Select breeding year after year is bearing fruit which is responsible for our bees becoming universally known and the increasing demand. Breeding queens selected from our Manitoba Apiaries is our foundation stock and many of these quenes have better than 600 pounds surplus to their credit. Daughters of these queens will speak for themselves and we are pleased to offer this higher quality at no increase in price. Our experience covers both shipping and the receiving end of the line which enables us to better understand your wants and we put every effort forward to please you. Marketing Agreement Prices are your protection for a higher standard of quality and service.

Two-pound packages bees with queens, $2.45 each, any number. Three-pound packages bees with queens, $3.15 each, any number. Untested Italian Queens, 75c each, any number 15% discount to recognized dealers buying in quantity lots for re-sale only.

The time to place your orders is now. Inquiries are coming in and a fair volume of business is in. Do not get left; place your orders in ample time to be assured of your bees when wanted. Safe arrival and satisfaction guaranteed.

York Bee Company, Jesup, Georgia

(The Home of Quality Products)

SEND US YOUR ORDER FOR LABELS. THE A. I. ROOT CO., MEDINA, OHIO.

SITUATION WANTED

YOUNG lady, experienced in bee work, wants permanent work. Box 30, Gleanings, Medina, Ohio.

MISCELLANEOUS

WANT to buy 100 colonies. Cash. Write details. 2935 27th Ave. So., Minneapolis, Minn.

WANTED—Barnes bench saw with regular attachments, must be in good condition and reasonable price. W. C. Long, Millville, Pa.

TOO LATE FOR CLASSIFICATION

CAUCASIAN package bees. Booking orders now for 1937 delivery. P. B. Skinner Bee Co., Greenville, Alabama.

WANTED—Extracted honey in case lots, gathered principally from one source, basswood, buckwheat, goldenrod, etc. What have you to offer? Quote price. James W. Bain, Marion, Ohio.

A Good Rule to Go By

Buy your Italian bees and queens from

ALABAMA APIARIES

MT. PLEASANT, ALA.

Queens, 75c each.

Packages, $2.45 and $3.15.

ITALIAN QUEENS

Orders booked now for spring delivery. Subject to prevailing spring prices. 10% with orders. Write us for information.

Shasta Apiaries

SHASTA, SHASTA CO., CALIF.

Express Office, Redding, Calif.

GEO. W. MOORE F. W. CHAPMAN

Carniolans

Caucasians

We wish you all a very merry Christmas and a happy and prosperous season for 1937. We will try to help make it so with our fine Carniolan and Caucasian queens and bees.

ALBERT G. HANN, GLEN GARDNER, N. J.

Package Bees for 1937

Better book your order early and be sure of getting bees when you want them.

THE CROWVILLE APIARIES

J. J. Scott. Winnsboro, Louisiana.

FOR SALE

Pure Italian bees and queens, bright yellow and three-band. Nothing but the best. Write us for your wants in bees.

GRAYDON BROS.

Route Two. Greenville, Alabama.

U. S. GOVERNMENT MARKET REPORT

(Continued from page 709.)

the time. Early snows cover the ground in Colorado, Wyoming, and other western states and the clover belt reports adequate moisture. In much of the plains area, however, lack of moisture is sending honey plants into the winter in poor condition. Bees generally have adequate winter stores as a result of the long fall flow, and also a sufficient number of young bees following the late brood-rearing. Sweet clover plants should come through the winter satisfactorily, but white clover and alsike seedings were often killed by the drouth, though remaining plants were greatly aided by the late rains. Packing of bees for winter is about over in the northern states, and colonies are being placed in the cellars. The carlot movement of honey continues, though less actively than earlier in the season, partly because large users bought heavily at the start and sharply lessened the available supplies in some areas. Some beekeepers who sold out too completely are already buying from others to take care of their normal trade. Comb honey is in extremely short supply, especially in the West, and demand for comb is good. Many commercial beekeepers, especially in the clover belt, are talking about increasing their colonies of bees next year, and some are arranging to raise their own package bees in the South this winter.

• • •

A CONFAB

(Continued from page 729.)

dents were undoubtedly caused by leaving the screens on too long. On the whole, we found this method satisfactory.

CLARENCE J. TONTZ,
Norman, Oklahoma.

P. S.—I thoroughly enjoy your Confab, and hope you keep it going.

[The editor has just returned from the Ontario beekeepers' meeting in Toronto. While comparatively few in Ontario are as yet using the carbolic method for removing surplus honey, one of the largest commercial honey producers with over 1200 colonies, reports complete success with this method.—Editor.]

We are now booking orders for package bees and Montain Gray Caucasian queens for 1937. Write for free circular.

CAUCASIAN APIARIES

Brooklyn Alabama

"The 'Queen' of the Crop"

Wishes her friends a

HAPPY AND SUCCESSFUL 1937

The Puett Company

HAHIRA, GEORGIA

"Where Satisfaction is a Certainty"

JENSEN'S

Announcement for 1937

We are now booking orders for spring delivery at Marketing Agreement prices. Our output of both packages and queens will be greater than ever before. The quality will be "the best we know how to produce," and the SERVICE will be up to, or above our usual performance, a record of which we are proud. We will not accept more orders than we can handle expeditiously.

We wish to take this occasion to thank each and every one of our many customers for your business which made possible the greatest year in our history in 1936, to extend to you the Season's Greetings, and our sincere wishes to you for a Happy and Prosperous 1937. The last to include also the various organizations interested in, and promoting the interests of beekeeping. Promising our continued support of the American Honey Institute to the extent of our ability in appreciation of its work, and trusting every commercial beekeeper will wake up to the greater possibilities of this organization, w eare, Fraternally yours,

JENSEN'S APIARIES
MACON, MISS.

The home of "Magnolia State" strain Italians.

MERRILL'S
PACKAGE
BEE FOR 1937

DEPENDABLE

MERRILL BEE COMPANY
BUCATUNNA, MISS.

TORONTO BEE MEETING

(Continued from page 752.)

in diameter, placed perpendicularly within the tank. The small or inside cylinder consists of relatively coarse screen, about 12-mesh, the next larger cylinder 30-mesh, the next larger 50-mesh and the outside or largest screen, 80-mesh. The honey from the extractor is delivered into the middle or small strainer and gradually filters through the four strainers and is then drawn from the tank and put either in honey cans or a storage tank.

It has been demonstrated that honey, because of its viscosity, strains better through perpendicular than vertical strainers. Honey needs to be on both sides of the straining screens. It should be said that these cylindrical screens can easily be removed for cleaning when necessary.

Mr. Morley Pettitt, one of the speakers, called attention to the fact that some few years ago our convention consisted mainly of discussions on marketing honey, whereas, the topics at present have to do largely with problems connected with honey production. And, after all, the rank and file of beekeepers are interested in developing new tricks of the trade, and short cuts in apiary management that will result in larger honey crops, reduce the cost of production and thus permit a wider margin of profit.

At the meeting for the election of officers of the association for the ensuing year the members voted to retain the present officers for another term: R. H. Thompson, President; H. O. White, First Vice President; F. S. Caldwell, Second Vice President, and E. J. Dyce, Secretary-Treasurer.—M. J. Deyell

THE BEE WORLD—The leading bee journal in Great Britain, and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingworth, The Way's End, Foxton, Royston, Herts, England.

. . . . Package Bees and Queens for 1937 . . . .

Greetings to our customers, friends and those employed in the great bee industry. When the holidays have gone and thoughts are forming into terms of PACKAGE BEES, remember this: We serve small and large orders alike and have plenty of bees to go around. We appreciate orders and show it in service and product. Get your money's worth with us.

Garon Bee Co., Donaldsonville, La.

XUM

WANTED

A Job as a Holiday Messenger! 1000 Copies of "100 Honey Helpings" are waiting to say

Merry Christmas for YOU!

THEIR QUALIFICATIONS ARE:

The finest collection of tested and prize winning recipes yet published.
Nutritional references approved by American Medical Association.
An attractive cover of yellow, green and white.
An entire back cover page for imprinting.
Illustrations.

SALARY:	To Members.	Non-Members
10	$0.65	$0.80
25	1.50	1.80
50	2.75	3.25
100	4.50	5.50

Single copies, 10c. F. O. B. shipping point.

If you are interested in hiring any of them during the Yuletide Season to carry a permanent, personal and unusual remembrance to your friends and trade, apply today to

American Honey Institute, Madison, Wisconsin

I want.....copies of 100 Honey Helpings to carry my Christmas Greetings. The amount of $..... is attached to cover their cost and shipping charges.

Name..... Address.....

Did You Ever Get Stung?

Lots of buyers of package bees and queens did last year. We handled a larger volume of business than ever last year. Our shipments were prompt, our losses in transit very light, our bees and queens as good as can be bought, so let us book your order for next season.

•••

Prices on supplies will likely be higher next year. Figure up your needs now and let us quote you at once.

•••

10-frame Cypress Hive Bodies	$47.00 per 100
White Pine Hoffman Frames	32.50 per 1000
Shallow Frames	21.50 per 1000

•••

Catalog on request.

•••

The Stover Apiaries, Mayhew, Miss.

EDWARDS METAL ROOFS

Look better, last longer, costless. Protection from fire, lightning, wind and weather. Send roof measurements today for money-saving price, freight paid. **Ask for Catalog E3.**

THE EDWARDS MANUFACTURING CO.
1233-1288 BUTLER ST. CINCINNATI, OHIO

FACTORY TO YOU

KITSELMAN FENCE

Guaranteed highest quality at lowest prices. Copper-Bearing Steel, 99.92/100% *pure* zinc galvanized. ***Horse-high, Bull-strong, Pig-tight*** Farm Fence; Poultry and Lawn Fence, Steel Posts, Gates, Barb Wire, Paints, Roofing. WE PAY FREIGHT.

KITSELMAN BROTHERS
Box 21 ***Muncie, Indiana.***

12-Month Subscription with Bee Primer - - $1.00

American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

Full 12-month subscription, with **BEE PRIMER**—32 pages, illustrated booklet to help the beginner—**BOTH FOR $1.00.** Combined with Gleanings in Bee Culture—both magazine and Primer, **ONE YEAR, $1.60.** This offer good only in the United States. Address—

American Bee Journal, Hamilton, Illinois

Index to Gleanings in Bee Culture

Volume LXIV, 1936

In using this index the reader shoud not fail to note that it is divided into five departments, namely: General, Editorials, Contributors, Illustrations and Departments. The index of General includes everything except Editorials, Illustrations, Departments and Contributors.

GENERAL

A

Acid smoke box, 148
Adulteration of honey, 397
A. F. B., experimental work with, 22, 605
A. F. B., whey, cure for, 414
A. H. I.'s "everlasting" members, 25
Airplane, dusting by, 722
Algaroba, same as mesquite, 46
Alkalinizer, honey is a, 751
Aluminum paint and creosote, 627, 689
Aluminum paint for hives, 627
American Honey Producers' League bulletin board, 274
Anderson, W. E., 395
Ants and wasps molest bees, 494
Apiaries, classes of students visiting, 468
pilfering in, 26
scaring thieves from, 562
Apiarist's notebook, 90
Association, first, in 1873, 656
Association organization, 182, 674
Asthma cured by bee stings, 39
Avenarius carbolineum, 494, 671

B

Baby nucleus, wintering a, 608
Backlotter makes good, 624
Baked apples, 80
Basswood trees, how to grow, 498
Bee, cell determines size of, 158, 221
enthusiast, young, 545
moth constructive or destructive? 38
moths, getting rid of, 562
paradise of America, 150
pastures diminishing, 721
projects, assisting, 467
shipper, a model, 271
song of the, May cover
stings cure asthma, 39
stings help rheumatism, 494
Bee-tree cutting, 38
Bee-waterer, inexpensive, 426
Beekeeper, amateur radio helps, 427
co-operate with school, 467
New Zealand, 409
1000-colony, 534
Beekeepers in Florida, 76
some possible new, 609
Beekeeping as an avocation, 329
can organization in succeed, 674
in Jerusalem, primitive, 159
in Pennsylvania, 533
in Texas, 656
migratory, 76, 342
pay, he makes, 547
practices improving, 537
problems, solving, 329
school established, 86
trends in Canada, 73
Bees as pollinators, 609
buying now or in the spring, 693
catnip quiets, 427
could teach about food, 676
disinclined to go through queen excluder, 430
find home near Langstroth's grave, 41
gnawing comb foundation, 562
handy way to water bees, 222
how to kill in schoolhouse, 111
hybrid, first cross, 412
in orchards, distribution of, 145
kept near dwelling house, 498
long confinement during winter, 110
molested by ants and wasps, 494
moving by auto, 366
moving eggs, 603
moving from cellars, 154, 221
moving, hard work, 143
moving short distance, 350
not attracted by sweetened poisoned mash, 17
on shares, 298
on the road, 342
order early, 137
persist in going contrary to rules, 690
picking up, biggest job, 146
poisoned how? 282
production of in Texas, 658
refuse to work in supers, 366
resistant strain of, 545
shade for, 223
size, determined by brood combs, 158, 221
starving, carry no pollen, 222
supplying for pollination, 142
to colony, average number of, 526
transporting across Kansas, 223
watering, 426, 476
when to put in cellar, 692
Bird bath as bee feeder, 40
Birds, enemies or friends, 23
Biscuits, honey drop, 81
Bohne, Geo. W., 596
Bonanza hybrid queens, 346
Bottom boards, aluminum paint for, 627
Bottom-boards, creosote for, 298
Box, acid smoke, 148
Bread, honey nut, 659, 701
honey pineapple, 659
orange pecan, 659
prune nut, 659
British National Honey Show, 95
British visitors, 750
Brood chambers, two-story, for comb honey, 223
two-story, satisfactory, 287
Brood combs, old, do they make small bees? 158, 221
Brooder house, wintering bees in, 627
Buckwheat does not yield, 731
Building, four-floor, two-story, 662
Burn, serious, honey prevents, 623
Buying bees now or next spring, 693

C

Cake, ice-box, honey, 406
Cake, unbaked fruit, 714
Calvert, J T., golden wedding of, 631
Canada, beekeeping branch in, 479
Canada, beekeeping trends in, 73
Candy, honey in, 337, 713
Canning with honey, 529
Carbolic acid for taking honey, 25, 476, 492, 493, 664, 665, 675, 734
Caramel, honey lengthens life of, 337
Carrot cookies, 214
Castoria, honey takes place of, 89
Catnip quiets bees, 427
Caucasian characteristics, 689
Caves of honey, 666
C. C. C. boys, spend night with, 83
C. C. C. camps use honey, 96
Cedar lumber for bee hives, 692
Cell determines size of bee, 158, 221
Cellar, removing bees at proper time, 590
when to put bees in, 692
wintering, 589
wintering and food chamber, 692
wintering economical, 655
Cellars, moving bees from, 154, 221
Cells, drone, encourage swarming, 270
grafting, 267
Chain store sells honey, 281
Chart, relation of color to nitrogen and ash in honey, 398
Chemical poisoning, 721
Cherries, Maraschino, 714
Children, honey for, 152
Child's book on bees, 525
Christmas candies, 713
Chunk honey, 415
honey brought profit, 351
honey, removing wires from, 38
Clapsaddle, Frank, honey house of, 662
Clipping queen on comb, 159
Clover, more this year, 478
soil needs phosphorus, 394
spontaneous growth of, 479
Coffee, honey to sweeten, 363
Colonies killed in fall and packages used in spring, 498
minimum standard for overwintered, 207
populous cell building, essential, 140
skyscraper, manipulating, 499
strong, divide in September, 563
to be requeened, 205
vicious, method works on, 336

Colony, average for 7 years, 427
average number of bees in, 526
Combating wax moths, 543
Comb foundation, bees gnawing, 562
Comb honey, 478
dark, 495
letters raised on, 430
production, decline in, 333
Roy Rabbitt on, 332, 414
trend in Idaho, 332
two-story brood chambers for, 223
what about? 332
Comb or extracted honey, 608
wires removed from, 410
Combs, good, importance of, 268
good, value of, 139
holes in, filling, 347
of granulated honey, what to do with, 298
of honey suitable for package bees, 47
pollen-clogged, wintering for, 693
poor, don't tolerate, 270
unused, protecting from wax moths, 692
Confab, 399, 472, 525, 601, 664, 676, 728
Confectionery industry, 387
Cookery, ice-box, 406
Cookie jar, 213
Cookies, carrot, 214
honey fruit, 213
honey oatmeal, 214
ice box, 214
ice-box, filled, 406
Co-operative association, 74
Copper tubing for processing honey, 298
Cork a good insulation, 734
Corn cob super springs, 689
Cost of producing honey, 731
Costs, let's look into, 407
Cotton dusting on bees, effect of, 426
Cough syrup, wholesome, 40
Court decision, important, 426
Cover, another use for, 689
Creamed honey, making good, 623
Creosote for bottom-boards, 298
Creosote, will aluminum paint lay over, 627, 689
Cups, eggs in, 340
Cyanogas for moths, 158
Cyprians, are they cross? 562

D

Dairymen may help beekeepers, 393
Dance of bees, 526
Death comas, menace to bees, 688
Detroit convention, 52
Dinner, the oven, 80
Disease, early inspection for, 46
Displays, honey, making attractive, 457
Dividing strong colonies in September, 563
Dollar a pound honey, 671
Don'ts, a few seasonal, 493, 547
Double-duty hive, 265
Double-walled hive, 734
Doughnuts, honey, 592
Drink, nice, but no kick, 623
Drone cells encourage swarming, 270
Drone ,the hèlpers, 609
the lazy, 608
Drones, importance of, 414
not lazy, 525
Dunking queen, 343, 414
Dusting by airplane, 722
Dusting poisoning from, 626
Dwelling house, bees kept near, 498
Dysentery, cause of, 347
Dysentery in bees, 275

E

Eating locusts, 688
Educational opportunity, 467
Eggs, do bees transfer? 94, 350
in cups, 340
moved by bees, 603
workers carry and place, 94, 216
Eight, groups of, 585, 675
English extracting plant, 39
Entrance guard, robber-proof, 346
middle winter, 159
too large rather than too small, 665
Entrances, top, 671
that's different, 715
winter, size of, 665
Evolution not confined to the worker, 602
Evolution of Ukrainian beekeeping, 85
Excluder queens raised above, 547
Excluders, extracting above, 478
queen, using, 367
Exhibit A, 51
Exhibit of honey at San Antonio, 363, 653
Express rates far too high, 202
Extracted honey, trend to, 9
Extracted or comb honey, 608
Extracting above excluders, 478
of fall honey, 693
plant, English, 39
plants, honey, 402

F

Family reunion cake, 151
Farmer-beekeepers dropping out 11
Feed to, or not to feed, 654
Feeder, bird bath as, 40
Feeding pollen substitutes, 172
syrup economical, 655
white or brown sugar, 172
Female eggs, why they produce workers instead of normal queens, 602
Females, perfect, both queens and workers, 603
Fermented honey, 154
Ferments, when and why, honey, 498
Fiddle-neck, 94
Filtration of honey, 715
Fire, the menace of, 542
Fire, the theory of, 527
Flood in Nebraska, 24
Florida beekeepers, 76
Food chamber and cellar wintering, 692
management of during honey flow, 367
getting filled, 563
proper size of, 46
partly filled super for, 692
queen excluders removed from, 626
Food of worker larvae, do bees skimp, 526
Forty faithful fellows, 89
Foundation installing packages on full sheets, 111
poorly wired, loss from, 268
when and why bees gnaw, 626
Four-floor two-story building, 662
Four, groups of, 675
Four steps in making a sale, 625
Frames destroyed by termites, 533
Frames, method of stacking, 495
Fruit cake, unbaked, 714
Fuels for the bee smokers, 152
Funny face sandwiches, 591

G

Garden medley, 530
Gingerbread, 80
Gleanings, comments on, 146
Golden wedding of J. T. Calvert, 631
Golden wedding of E. R. Root, 45
Government bee work in Louisiann, 459, 531
Grafting box, construction of, 266
Grafting cells, 267
Grand Canyon, crossing, with honey, 12, 82
Granulated honey, combs of, what to do with, 298
Granulated honey, hard, 430
Grapefruit juice and honey, bottled, 18
Grape wine, 675
Great oaks from little acorns, 20
Greater wax moth, 92, 465, 466
Groups of eight, 585, 675
Groups of four, 675

H

Haemoglobin, honey increases, 733
Ham, honey-treated, 80
Hand container filler, 92
Hawaii, honey flow big in, 475
Heather not a granulating honey, 40
Hive corners, protecting, 477
cover, another use for, 689
double-duty, 265
seat, convenient, 344
tool for cutting out can tops, 688
Hiving a quadruplet swarm, 623
Hiving swarm, handy method of, 547
Hiving swarms, 367
Hives, aluminum paint for, 627
cedar lumber for, 692
covered with snow during the winter, 47
for winter, 541
in pairs, 283
paint for, 671
painting, 298
Honey, a better quality of, 74
adulteration of, 397
an alkalinizer, 751
a substitute for sugar, 75
bees, dysentery in, 275
bees for the orchard, 206
butter icing, 151
cake, ice-box, 406, 438
candies, 713
canning with, 529
carbolic acid for removing, 25, 476, 492, 493, 664, 665, 675
caves of, 666
C. C. C. camps use, 96
chain store sells, 281
chunk, 415
chunk, brought profit, 351
chunk, removing wires from, 38
comb, 478
comb, dark, 495
comb or extracted, 608
container, size of, 608
cookies, ice-box, 406
copper tubing for processing, 298

cost of producing, 407, 731
creamed, making good, 623
crossing Grand Canyon with, 12, 82
cures, 91
dark, revenue from, 671, 734
displays, 669
displays, making attractive, 457
dollar a pound, 671
doughnuts, 592
exhibit, international, 363, 653
extacting plants, 402
fall, extracting of, 693
ferments, 154
ferments when and why, 498
fills aching void, 84
filtration of, 715
flow big in Hawaii, 475
flow, management of food chamber during, 367
food all gone but, 84
fruit bars, 214
fruit cookies, 213
granulated hard, 430
grape fruit juice, 18
house of Frank Clapsaddle, 662
hunting new markets for, 40
icing for cookies, 213
in candy making, 337
increases haemoglobin, 733
instead of sugar for children, 152
market trends, 334
market value of, 522
markets, 669
markets, don't destroy, 93
method of introducing queens, 351
mineral constituents of, 469
nut bread, 659, 701
oatmeal cookies, 214
pineapple bread, 659
pineapple sherbet, 591
plants of Texas, 658
please pass the, 152
prevents serious burn, 623
price trends, future, 521
processing problem, solving, 330
production decreasing, 10
production in Massachusetts, 750
production shifting trends in, 9
pudding, 668
regions, some exceptional, 536
removed with Oxydol, 493
sacrifices, 21
samples for Texas meeting, 495
Saskatchewan, 723
selling at roadside stands, 477
selling by advertising, 47
show, British National, 95
sour, what to do with it, 431
stand, serve-self, 534
surplus, when to remove, 430
taffy, 159
takes place of castoria, 39
Texas, 494
treated ham, 80
trees, two rival, 730
used to sweeten coffee, 363
walnut cake, 151
way menus, 591
where it comes from and where it goes, 521
won't stay in pails, 110
Honeydew, an excretion from insects, 47
what to do with, 692
House, bees kept near, 498
Hybrid bees, first cross, 412, 732
more about, 605
do they gather more honey? 478

I

Ice-box cake, 406, 438
cookery, 406
cookies, 214
cookies, filled, 406
Icing, honey butter, 15
Idaho, comb honey trend in, 332
Idaho plant menace to bees, 688
Illinois and Indiana meeting, 659
Importation of bees, Michigan rules on, 151
Indiana and Illinois meeting, 659
Individual sections profitable, 287
Insects, natural pollinating, 206
Inspection, early essential, 143
Inspection, efficient needed, 542
for disease, early, 46
scale, recommended, 202
Insulating the telescope cover, 624
Insulite hive, 541
International Conference at San Antonio, 538, 653
Introducing direct method of, 410
method, 205
queen cells, 366
queens, honey method of, 351
Introduction, queen, inverted, 528
queen, simplified, 335
smoke method, 335
Inverted queen introduction, 528

J

Jerusalem beekeeping, primitive, 159

K

Kansas, transporting bees across, 223

L

Laboratory, apicultural, Texas, 651
Laboratory, Louisiana, research in, 459, 531
Labor charges justifiable, 407
Langstroth's grave, bees find home near, 41
Larvae, female, are they queens until changed? 526
Larvae, wax-moth, hidden, 427
Leininger, F. J., death of, 348
Lesser wax-moth, 92, 466
Letters raised on comb of honey, 430
Little trick that works, 46
Local products, roadside stands handle, 493
Locust a nut, not a grasshopper, 40
Locust, surplus from, 430
Locusts, eating, 688
Louisiana's Geo. W. Bohne, 596
Louisiana, government bee work in, 459, 531
Louisiana, white clover in, 395

M

Manitoba, package bees for, 201
Maraschino cherries, 714
March, March cover
Market, honey, trends, 334
Market, honey, value of, 522
Markets, honey, don't destroy, 93
new, watch for, 669
Marketing agreement, 51, 54
Marmalade, orange, 659
Marmalade, watermelon, 530
Mash does not attract bees, 17
Massachusetts, hurrah for, 750
Mesquite and algaroba same, 46
Metal hive corners, 477
Michigan rules on importing bees, 151
Michigan state meeting, 218
Migratory beekeeping, 76, 342
Mineral constituents of honey, 469
Missouri bees, late starting, 158
Moth, constructive or destructive, 38
Moth, wax or bee? 413
Moths, Cyanogas for, 158
Moths, getting rid of, 623
Movable-frame hive, first, 87
Moving bees by auto, 366
during winter, 47
from cellars, 154, 221
hard work, 143
short distance, 350
without screens, 153

N

Nebraska, flood in, 24
Newspaper vs screen method, 673
New Zealand beekeeper, 409

O

Observation hive for school during winter, 111
October, requeening in, 627
Octuple winter apartments, 586
Ohio bee meeting, 157, 725
Ohio meeting, high lights of, 600
Orange, marmalade, 659
Orange pecan bread, 659
Orchard, honeybees for the, 206
Orchards, bees in, distribution of, 145
Orthodoxy on trial, 400
Ovenarius carbolineum for hives, 494, 671
Oven dinner, 80
Out-apiaries, operating, 110
Outyards, theft in during winter, 693
Owl salad, 591
Oxydol for removing honey, 493

P

Package bees, combs of honey suitable for, 47
for Manitoba, 201
for pollination, 208
Packages for spring when bees killed in fall, 498
installing on full sheets, 111
loss of queens in, 97, 411
producing and shipping, 137
time to install, 366
two vs. three pound, 110
weighing bees into, 141
Packing in groups of eight, 585
Pails, honey won't stay in, 110
Paint, aluminum, for hives, 627
Paint for hives, 671
Painting hives, 298
Paper packing vs. wooden cases, 649
Paradise, bee, of America, 150
Paraffining edges of sections, 287
Party, let's have a, 591
Peaches canned in honey, 529
Pears canned whole in honey, 529

Pennsylvania, beekeeping in, 533
Phillips, Dr. E. F., 539
Pilfering in apiaries, 26
Pineapple, honey bread, 659
Pineapple, honey sherbet, 591
Plant in Idaho menace to bees, 688
Poisoned bees, how, 282
Poisoning from spraying and dusting, 626, 721
Poisoning of bees, serious problem, 144
Polishing cells, 526
Pollen-clogged combs for wintering, 693
Pollen gathering, 526
Pollen grains and honey sources, 474
soy bean for, 431
starving bees carry no, 222
substitutes, feeding, 172
substitutes, study of, 599
substitutes, why worry about, 149
Pollinating insects, natural, 206
Pollination of fruit, 91
package bees for, 208
supplying bees for, 142
Pollinators, bees as, 609
Preservative, ovenarius carbolenium. as, 494, 671
Price fluctuations, 334
Price trends, future honey, 521
Profit, chunk honey brought, 351
Program International Beekeeping conference, 695
Prokopovich, Petro, pioneer beekeeper, 85
Prune nut bread, 659
Pudding, honey, 668
Pumpkin tarts, 592
Pure food law started trend to extracted honey, 10

Q

Queen cell cups, eggs in, 340
do queens lay in, 525, 526
introducing, 366
often untouched, 527
Queen, clipping on comb, 159
dunking, 343, 414
excluder, bees disinclined to go through, 430
excluders removed from food chambers, 626
excluders, using, 367
introduction, inverted, 528
introduction, simplified, 335
on comb, clipping, 159
Queens, are female larvae until changed? 526
bonanza hybrid, 346
holding in mailing cages, 221
honey method of introducing, 351
lay in queen cells, do they, 603
long journey for, 40
loss of in packages, 97, 411
modified females, 603
perfect females, 603
production of in Texas, 658
raised above the excluders, 547
rearing good, 265
supersedure of, 203

R

Radio helps beekeeper, 427
Rea, Geo. H., 539
Rearing good queens, 265
Requeen themselves, colonies, 216
Records, accurate, kept, 654
Requeening, 223
in October, 627
problem, solving, 330
spring, 204
swarm control, 93
Resistant stock vs. robber-proof, 101
Resistant strain of bees, 545
Resolutions by Southern Beekeepers' Conference, 53
Rheumatism, stings help, 494
Rival honey trees, 730
Roadside stand, a serve-self, 534
Roadside stands handle local products, 493
Roadside stands, honey selling at, 477, 545
Robber-proof entrance guard, 346
Robber-proof vs. resistant stock, 101
Root, Mr. and Mrs., golden wedding anniversary, 45
Round-up, 659

S

Sacrifices honey, 21
Sainfoin, 366
Salad, owl, 591
Sale, four steps in making, 625
Salt and tansy, 350
San Antonio, are you going to? 592
San Antonio, plan to go, 606
Sandwiches, funny face, 591
Saskatchewan honey, 723
Scale inspection recommended, 202
Schoolhouse, how to kill bees in, 111
Schools, contacting effectively, 469
Screen vs, newspaper method, 673
Screens, moving bees without, 153
Sections, individual, profitable, 287
Sections, paraffining edges before folding, 287
Self-requeening, 216
Selling honey by advertising, 47
Service, extra, giving, 669
Shade for beekeeper, 548
Shade for bees, 223
Shares, keeping bees on, 298
Sherbet, pineapple, honey, 591
Shipper, bee, a model, 271
be fair to, 138
must be prepared, 139
Simplified queen introduction, 335
Single colony winter case, 604
Single- queen vs. two-queen colony management, 593
Skunks, 545
a cure for, 40
caught by tanglefoot, 477
Sky-scraper colonies manipulating, 499
Sky-scraper colony, 22
Smoke box, acid, 148
Smoke method of introduction, 335
Smokers, fuel for, 152
Soil conservation, 723
Song of the bee, May cover
South by auto and trailer, 18
Southern Beekeeping Conferences, resolutions of, 53
Southern States bee laboratory, 459, 531
Soy beans for pollen and nectar, 431
Speeding up, 415
Spraying, poisoning from, 626
Spray poison, no bee repellant for, 111
Spring management, 330
removing bees at proper time, 590
requeening, 204
Starving bees carry no pollen, 222
Statement of ownership, 703
Stingless bees, 46
Stings and swarms, 284
help rheumatism, 494
how one may become immune to, 499
or mosquito bites, 415
severe, effect of, 415
265 at once, 344
when fatal, 568
String instead of asphalt, 690
Sugar, honey a substitute for, 75
Sugar, white or brown, for feeding, 172
Super cracker, 101
springs, corn cob, 689
Supers, bees refuse to work in, 366
Supers, partly filled, for food chambers, 692
Supersedure of queens, 203
Swarm, a one-comb, 216
control by requeening, 93
control, effective, 343
control method, 46
follows owner to cemetery, 547
handy, method of hiving, 547
occupies woodchuck hole, 158
quadruplet, hiving a, 623
prevention, method of, 367
Swarming, a freak in, 494
drone cells encourage, 270
late, 626
out in December, 45
stretched cells encourage, 270
Swarms and stings, 284
hiving, 367
sting, when, 347
Sweden, swarm control in, 93
Sweet clover gaining ground, 535
Sweet clover scores again, 215
Sweet potatoes and honey, 80
Sweet tooth, have you a, 713
Symphony, an unfinished, 16
Syrup feeding economical, 655

T

Tanglefoot catches skunks, 477
Tannenhonig better than medicine, 41
Tansy and salt, 350
Telescope cover, insulating the, 624
Termites and how they destroy frames, 533
Texas apicultural laboratory, 651
Beekeepers' Association activities, 538
beekeeping in, 656
bee king, 210
Centennial, 345
honey, 494
honey plants of, 658
international conference, 492, 538, 653
may be champion honey state, 548
production of bees and queens in, 658
Theft in outyards during winter, 693
Thieves from apiaries, scaring, 562
Tomatoes, pickles flavored with honey, 530
Tongs for lifting out frames, 751

Top entrances, 671, 715
Transporting bees across Kansas, 223
Transportation, 202
Transportation, means of, 145
Trends in honey production shifting, 9
Trucking bees, 202
Truth, an old but ever-new, 222
Two-queen vs. single-queen colony mangement, 593
Two vs. three pound packages, 110

U

Ukrainian beekeeping, evolution of, 85
Umbrella used for shade, 548
Uvalde, Texas, celebrates, 345

V

Volga Finns of Russia, 21
Von Fish's discovery, 172

W

Washboard movement of bees, 544, 608, 673
Wasps molest bees, 494
Water bees, handy way to, 222
Watering bees, 426, 476
Watermelon marmalade, 530
Wax moths, combating, 543
  further differences in, 465
  greater, 92, 465, 466
  larvae, hidden, 427
  lesser, 92, 466
  or bee moth, 413
  protecting unused combs from 692
Wedding anniversary, celebrates 67th, 493
Weed control, 722
Whey, cure for A. F. B., 414
White clover in Louisiana, 395
White clover, wild, in pastures, 393
Whitefield, A. O., and plant for bottling grape fruit juices, 19
Who's Who in Apiculture, 280
Wild white clover in pastures, 393
Wind, natural protection from, 651
Winter case, single-colony, 604
  cluster, 526
  entrance, middle, 159
  entrances, size of, 665
  hives, 541
  hives covered with snow during, 47
  long confinement of bees during, 110
  loss only 3.3 per cent, 750
  losses unnecessary, 281
  moving bees during, 47
  observation hive for school during, 111
  protection, 331, 649, 690
Wintering a baby nucleus, 608
  cellar, economical, 655
  in brooder house, 627
  in cellars, 589
  in Wisconsin, 604
  methods of, 649
  pollen-clogged combs for, 693
  two-story pays, 351
Wires removed from combs, 410
Wires, removing from chunk honey, 38
Wisconsin Beekeepers' Association, 724
Wisconsin, wintering bees in, 604
Witches' brew, 592
Woodchuck hole, swarm in, 158
Wooden cases vs. paper packing, 649
Work, plenty of, 676
Worker colonies, laying, what to do with, 627
Worker not a stunted queen, 527
Workers carry and place eggs, 216
  modified females, 603
  perfect females, 603
  transfer eggs, 94, 216

ILLUSTRATIONS

Acid smoke box, 149
Adams & Myers' honey house, 402
Alabama, loading package bees, 137
Alamo, 607, 667
A. F. B. control demonstrations, 436
Anderson, W. E., 395
Apiary, comb honey, 333
  experimental at Ames, Iowa, 732
  Idaho, typical, 332
  in Hawaii, 475
  in Jerusalem, 159
  in long rows of hives, 588
  in Texas, 657
  in New York, 750
  in winter and summer, 330
  of M. D. Clinton, 78
  of M. G. Eldred, 330
  of M. H. Hathaway, 469
  of J. H. Huskey, 78
  of Fred Leininger, 727
  of Nordham Bros., 77
  of Leroy Stockdale, 351
  umbrella for shade, 350, 548
  well protected, 629
Apples, honey baked, 81
April in Colorado, April cover
Aster, October cover
Auto trailer, 18
Bain, James W., 267
Bartlett, Ira, moves 500 packages of bees, 339
Bee cellar of Peter Sowinski, 76
Bee sting magnified, 222
Bee-tree cutting, 38, 670, November cover
Bee-waterer, 222, 426, 476
Bee with dysentery, 275
Bees clustering out, 364
  find home in urn, 41
  getting out of house, 624
  moving by truck, 342
  19½ pounds of, 148
  on blossoms, 142
  on dandelion in May, 287
  watering, 222
Biscuits, honey drop, 81
Bohne, Geo. W., 564
  and apiary, 597, 598
  and wife, 597
  home of, 597
Bottling grapefruit juice, 19
Bouquets of cut flowers in trees, 143
Boy with smoker, June cover
Bright Angel trail, 83, 84
Brood comb, wax moth damage to, 543
Brunnich, Dr. Chas., 414
Burghardt, John, carrying water to bees, 476
Burleson, T. W., 667
  & Son's honey packing house, 210
  and wife, and helpers, 211
  home of, 211
Burleson's use two funnels to cage their bees, 211
Buseman, John O., 674
Cacti and yucca in Grand Canyon, 83
Cacti, close-up of, 271
Cake- ice-box, 406
Calvert, J. T., in his favorite corner, 631
Calvert, Mr. and Mrs. J. T., 631
Candies, honey, 714, 715
Candles displayed with observation hive, 468
Canning with honey, 529
Caramels, honey, packed in box, 337
Carrot cookies, 213
Castor beans for shade, 223
Cellar, bee, of Peter Sowinski, 76
Cellar, Michigan, 589
Cellar of Emil Lund, 724
Chart, average price of honey, 523
  honey producing areas in Pennsylvania, 534, 535
  population and honey yield under normal management, 594
  two queen intensive colony management, 595
  wholesale prices of honey, 524
Chazy Orchard's extracting equipment, 403
Clapsaddle, Frank, 662
  honey house of, 662, 663
Clay, Harold J., 694
Clinton, M. D., 78
Clover crop in June, 394
Clustering, bees, on orchard package, 207
Coffee, honey to sweeten, 363
Coffey, equipment, some of, 274
  shop for bottling honey, 272
  Whitman, 271
  Whitman, queen-rearing yard, 271
Colonies, populous with bees, 273
Colony, cell-building, 273
  populous, ready for supers, 365
  suffering from dysentery, 276
  with hybrid queen produce 425 pounds of honey, 22
Colorado in April, April cover
Comb from dysenteric colony, 277
  good, indifferent and bad, 269
  honey apiary, 333
  honey section, 9
  partly drawn out, 561
  perfect, 751
  perfectly capped, 561
Cookies, carrot, 213
  ice box, 214, 406
Coolidge, Mr and Mrs. John M., 493
Cotswold, homestead in, 90
Coulter, W. A., 726
Cover, ventilated, 77
Covers left on in winter, 585
Crockett Hotel, 607
Crop failure due to insufficient pollinating insects, 209
Crop of fruit, ideal, 208
Crystal Palace, 95
Curtis, Eliott Elmo, 427
Dadant, L. C., 625
Dadant, M. G., 625
Dandelion, bees on, 287
Deyell, M. J., 418, 560, 625, 689
Deyell, M. J., examining frame, 496
Display of honey on revolving

shelves, 457
Displays, honey, 457, 458
Double-duty hive, 265, 266
Doughnuts, honey, 592
Drone, 234
Drone and worker cells, 300
Dunham, Dr. and Mrs. W. E., 726
Dysenteric bee, 275
Dysentery, colony suffering from, 276
Eckert, J. E., 721
Eggs in worker cells, 235
Eight-colony winter case, 650
Eight, groups of, 650
Eldred, M. G., apiary of, 330
Eldred, M. G., and one of his skyscrapers, 329
Eldred's straining tank, 331
Entrance tunnel, 346
Entrances ,top, 716
Excluder funnel, 139
Exhibit of R. D. Hiatt, 28
Exhibit of Chas. Kinzie, 155
Extracting outfit, complete, 433
Extracting plants, 402, 403, 404 405
Extractor, first American eight-frame to be used in England, 39
Farrar, C. L., 593
Feeder, friction top pail, 170, 628
Fence as windbreak, 49
Fernes, Emil P., in his apiary, 335
Filler, novel hand, 92
Filling cages, device for, 272
Filtration of honey, 718, 719, 720
Fire effects on honey house, 542
Flood in Nebraska, 24
Floor plan of O. H. Schmidt's honey house, 405
Forehand's, N., apiary, 79
Forrest, S. L., 407
Foster, R. E., 630
4-H boys watching demonstration, 536
4-H girls not afraid of stings, 537
Frame damaged by termites, 533
of cells, 273
with full sheet of foundation, 561
Frames stacked so mice can not gnaw, 495
Frames, typical, from sky-scraper hive, 23
Friction-top pail feeder, 170, 628
Fruit cake, unbaked, 713
Fruit crop, ideal, 208
Funnel for excluding drones, 139
Funnel used in filling packages with bees, 171
Funny-face sandwiches, 591
Gingerbread, golden brown, 80
Gooderham, C B., 73
Goodman, Willah, 661, 679, 726
Grand Canyon, down on horseback, 13, 15, 83
Grand Canyon, looking across, 14
Grapefruit, bottling juice, 19
Grapefruit, machine for removing skins, 19
Grattis, Sheldon, 689
Green, D. D., 79
Grossenbacher, Henry, home of, 281
Grossenbacher, Mr. and Mrs. Henry, 281
Groups of eight, 585, 587, 650
Groups ready to be packed, 587
Gunny sacks dipped in chemical solution, 152
Hambleton, Jas. I., 459
Hassinger, Ed, 625
Hathaway, M. H., 468
Hathaway, M. H., apiary of, 469
Hawaii, honey house in, 475
Hawaiian scene, 475
Haydak, Mykola H., 85, 599
Hayes, Wm. P., 465
Healthy bee, 275
Hiatt, R. D., honey exhibit of, 28
High school students examining colony, 467
Hiltner, Ray C., honey house of, 404
Hive corner, metal, 477
seat, 344
tiered up for backlotter, 624
to open, 432
used as seat, 284
Hives in long row, 588
in pairs, 284
on platforms, 598
Hohman, Frederich, 674
Honey-baked apples, 81
candies, 714, 725
canning with, 529
caramels packed in box, 337
displays, 457, 458
display, shelves on axle, 457
doughnuts, 592
drop biscuits, 81
exhibit in Crystal Palace, 95
exhibit of R. D. Hiatt, 28
exhibit of Chas. Kinzie, 155
extracting plants, 402, 403, 404, 405
filtering, 718, 719, 720
for sweetening coffee, 363
fruit caked, unbaked, 713
gate, 720
gingerbread, 80
house, Adams & Myers, 402
house after fire, 542
house of Frank Clapsaddle, 662, 663
in the Grand Canyon, 82
orange sherbet, 591
pudding, 668
sign of J. H. Huskey, 78
stand, 478, 497, 669
straining outfit, 718, 719, 720
syrup, canning peaches with, 529
that saved the day, 82
House for honey packing, T. W. Burleson's, 210
House, getting bees out of, 624
Huber's leaf hive, 87
Hull, W. H., moves bees, 342
Huskey, J. H., 78
Hybrid queen, colony with, produces 425 pounds of honey, 22
Ice box cake, 406
Ice-box cookies, 214, 406
Idaho apiary, where queens are reared, 332
Indiana-Illinois round-up, 660, 661
Insulite hive, 541
Introducing cage, 410
Iowa, experimental apiary in, 732
Isaksen, I., uses umbrella in apiary, 350
Jensen, Malitta F., 661
Jerusalem, apiary in, 159
Jessup, J. G., 204
Johnstone-Wallace, Dr., daughter of, 394
Kaibab suspension bridge in Grand Canyon, 14, 84
Kalthoff, Roy, showing his good combs, 158
Keg and slanting board for watering device, 222
Kinzie, Mr. and Mrs. Chas. and their exhibit, 155
Kohn, Dr. and Mrs. Ernest, 726
Kruse, Chas., 661
Laboratory in Louisiana, 460, 461, 462, 463, 464
Laboratory, Texas, research, 652
Latham, Allen, among his bees, 601
Lee, Robert, and sister, 750
Leininger apiary, 727
Leininger, Fred J., 348, 725
LeStourgeon, E. G., 652, 667
Lively, E. H., 689
Locust, black, 730
Louisiana bee laboratory, 460, 461, 462, 463, 464
state house, 396
white clover in, 396
Lund, Emil, winter cellar of, 724
Lyle, Newman, 747
McLindon children, 20
Machine for bottling grape fruit juice, 19
Machine for removing skin from grape fruit, 19
Mackensen, Dr. Otto, 459, 460
Manitoba, package bees in, 201
Marmalade, watermelon, 530
Marsden, Manor, Cotswold, 90
Melampy, Dr. R. M., 460, 464
Metal hive corner, 477
Michigan bee cellar, 589
Migratory beekeeping, 342
Miller, C. S., 272
McGregor, S. E., 459, 460
Mississippi, white clover on levees, 531
Morehouse, B. L., apiary of, 588
Moth, wax, greater and lesser, 466
Motorized sprayer, 144
Moving bees by truck, 342
Moving 500 packages by truck, 339
Mutual service, 142
Nebraska, flood in, 24
Nebraska, sweet clover in, 215
Nelson, Wallace, 409, 689
Newton, J. W., 462
J. W., and son, 396
package yards of, 532
New York, apiary in, 750
Nordham, A. B., 77
Nordham, J. B., 77
Observation hive with display of wax candles, 468
Oertel, Dr. E., 459, 460, 462, 532
Ohio State University experiments, 206
Ohio, sweet clover in, 751
Orange sherbet, 591
Orchard, colonies in, 206
Orchard, special, package, 207
Package bees in Manitoba, 201
loading in Alabama, 137
move from south to north, 339
set out early, 201
truckload of, 138
truckload, ready to go North, 203, 339
Packages, device for filling, 272
Package, special orchard, 207
filling with bees, 171
sprinkling with sugar syrup, 140
yards of J. W. Newton, 532
Packing cases covered with snow, January cover
steps in, 691

XUM

with tar paper and sawdust, 604
Pack train in Grand Canyon, 13, 15
Pail for feeding, 170, 628
Pairs, hives in, 284
Paper winter cases, 587, 649, 650
Park, O. W., 667
Parks, H. B., 652, 667
Parks, Jean, 652
Pauli, G. A., extracting apparatus of, 403
Peaches, canning with honey syrup, 529
Pellett, Frank C., 667
Phantom ranch, equipment for, 13
Phillips, Dr. E. F., 539
Porter, R. J., 726
Pritchard, Mel, 267
Prokopovich's hive, 86
Prokopovich's method of describing the condition of a colony, 88
Pudding, honey, 668
Queen cells, 299
Queen, 234
introducing cage, 410
mating yard of N. Forehand, 79
rearing yard of Whitman Coffey, 271
Queens reared in Idaho apiary, 332
Rahmlow, H. J., 625
Rahmlow, John, shoveling his bees out of the snow, 282
Randall, P. R., 333
Rea, Geo. H., 539
Red clover, July cover
Reese, Chas A., 665, 726
Reustle, Elmer F., 674
Rice, Jay W., 38
Richmond, R. G., 491
Roadside display, 669
Roadside honey stand, 478, 497, 669
Roberts, W. P., 459, 460
Root, David, 672
Root, E. R., 47, 667, 725
Root, Mr. and Mrs. E. R., 45
Root, H. H., 672
Rubber tree planted by A. I. Root, 20
Sacrifice loaves, bowls and coins, 21
Sainfoin in England, 91
Sandwiches, funny face, 591
Schmidt, O. H., honey house of, 404
Schultz, A. J., skyscraper, September cover
Seat, hive, 344
Seat, second hive in pair used as, 284
Shade, castor beans for, 223
Shade, umbrella for, 350, 548
Shipping cages stacked up, 274
Short's, H. C., outyard at Fitzpatrick, 141
Silhouette, June cover
Simmons, J. A., 150
Skyscraper colony, 22
Skyscraper hive in Wisconsin apiary, September cover
Smoke box, acid, 149
Smoking a colony, 432
Snow, shoveling bees out of, 282
Sowinski, Peter, 76
Sprayer equipped with lights for night work, 144
Sprayer, motorized, 144
Starkey, J. E., 661, 726
Starkey, Mrs. J. E., 726
State house at Baton Rouge, La., 396
Stewart, L. R., 661
Sting, bee, magnified, 222
Stockdale, Leroy, 351
Straining cloths, metal support for, 331
Summerfield, Fred, and auto trailer, 18
Super cracker, 101
Supering on top, 561
Supers, to pry apart, 101
Sweet clover in contest, 215
Sweet clover in Nebraska, 215
in Ohio, new growth, 751
Syrup, sprinkling packages with 140
Tabor, Rex W, tank room of, 404
Termites damage frames, 533
Texas apiary, 657
experimental yard, 652
research laboratory, 652
Thomas, F. L., 667
Tollafield, C. G., 689
Tonto platform in Grand Canyon, 13
Top entrance, 716
Top supering, 561
Trailer, go South by, 18
Trailers, two types of, 217
Trailers used in South Dakota, 217
Tree, bee, 38, 670, November cover
Truckload of packages ready to start North, 203
Truck, moving bees with, 342
Truck, moving 500 packages by, 339
Trucks used in Coffey yards, 272
Tucker, Ruth, 726
Tulip poplar, 730
Tunnel fools robbers, 346
Umbrella for shade in apiary, 350, 548
Umbrella, pointed rod for end of, 548
Unpacking the group of eight, 587
Urn in which bees found home, 41
Ventilated cover, 77
Volga Finns, sacrifices of, 21
Ward & Son, W. O., distributing bees in orchard of, 145
Water for bees, 598
Watering bees, 222, 426, 476
Watermelon marmalade, 530
Wax-moth damage to brood comb, 543
Wax-moth, greater and lesser, 466
Whitcomb, Dr. Warren, 459, 460
White clover in Louisiana, 396
in Root apiary, August cover
on levees of Mississippi, 531
White, Edelene, 460
Whitefield, A. O., and automatic machine, 19
Wilson, H. F., 429, 625
Windbreak for apiary, 49
Winter cases, 587, 649, 650
Winter protection, 691
Wisconsin apiary, skyscraper in, September cover
Witches' brew, 591
Wolkow, A. E., 625
Woodchuck, February cover
Worker, 234
and drone cells, 300
cells enlarged, 235
Yaki Trail in Grand Canyon, 15

EDITORIAL

Alfalfa in conservation plan, 226
A. F. B., immunity or resistancy to, 99, 481
Alfalfa in conservation plan, 226
may change picture, 551
resists drouth, 480
American Honey Institute, a dollar a ton for, 550
long live the, 612
scores again, 700
American Honey Producers' League, give a boost, 481
Apicultural laboratory in Texas, 160
Bee escape or carbolic acid, 737
Bee diseases, dangerous, loose talk, 290
is there a best, 352
journal, not all the cream in one, 677
laboratory in white clover belt, 611
marketing agreement will continue, 100, 224
package agreement not affected by Supreme Court decision, 416
Bees, condition of, 161
disease resistant, 679
floods may destroy many, 224
long confinement severe on, 100
shortage of may curtail honey crop, 352
winter losses in, 225
Bonanza, package business no, 289
Butter, sugar and honey, 738
Cake, honey walnut layer, 161
Carbolic acid, caution, 549
for removing honey, 549
method, afraid of, 612
or bee escape, 737
Cellar wintering may be best
Caution about carbolic acid, 549
this winter, 160
Chances, doesn't pay to take, 224
Clover year, an old-fashioned, 416
Colonies dead, close entrance to, 224
normal, rapid development of, 353
strong, importance of, 482
Comb honey, shall it become a thing of the past? 43
what about? 352
Combs, wet, 482
Confinement, long, severe on bees, 100
Conservation plan, sweet clover and alfalfa in, 226
Cooking, how water content of honey affects, 42
Cream, not all in one bee journal, 677
Disease, bee, national act, 480
Disease-resistant strain, 679
Drouth, sweet clover and alfalfa resist, 480
Drouth, the 549
Dunking package bees in syrup, 288
Entrance flights, checking queens by, 418
Entrances to dead colonies, close, 224
Express company and package bee business, 44

Fire blight bacteria killed in honey, 549
Floods may destroy many bees, 224
Forward, let's go, 42
Gold Medal Foods feature honey, 736
Goodman, Willah, 679
Honesty, just common, 352
Honey, and milk, land of, 226
at $2.75 a pound, 697
carbolic acid for removing, 549
crop, 1936, price trends of, 612, 677
crop, shortage of bees may curtail, 352
exhibit at San Antonio, 736
Gold Medal Foods feature, 736
jelly, a misbranded product, 480
kills fire blight bacteria, 549
market, condition of, 161
price trends of, 612, 677
shortage, season's, 480
sugar and butter, 738
talking points in favor of, 98
walnut layer cake, 161
water content of, 42
what no, 288
Immunity and resistancy, 99, 481
danger, 161
to A. F. B., 481
vs. resistance, 481
Inspectors, national organization of, 42
Institute, a dollar a ton for, 550
long live the, 612
news, new plan of presenting, 416
scores again, 700
International conference at San Antonio, 162, 352, 481, 677, 678
honey exhibit at San Antonio, 736
Jack, 418
Jelly, honey, a misbranded product, 480
Laboratory in white clover belt, 611
Land of milk and honey, 226
Looking backward, 42
Lure of high prices and their danger, 44
Manitoba, bulletin on package bees in, 738
Marketing agreement will continue, 100, 224
Miles and miles of white clover, 289
Milk and honey, land of, 226
National bee disease act, 480
National organization of inspectors, 42
Nectar, why some plants do not yield as formerly, 160
Neighbors to the North, 100
Old King Cold, 160
Orthodoxy, a challenge to, 416
Overwintered colonies vs. package bees, 99, 736
Package bee and queen shippers, problems of, 162
agreement not affected by Supreme Court decisions, 416
bees, dunking in syrup, 288
bees, movement by truck, 353
bees to the rescue, 225
Package bees vs. overwintered colonies, 99, 736
business and express companies, 44
business no bonanza, 289
importance of explicit directions for installing, 162
in Manitoba, bulletin, 738
Penny wise, pound foolish, 610
Phillips, Dr., recovering, 224
Plants, why some do not yield nectar, 160
Price trends of honey crop, 612, 677
and season again, 550
high, lure of, 44
Queen and package bee shippers, problems of, 162
Queens, checking by entrance flights, 418
Resistance vs. immunity, 99, 481
Resistancy and immunity, 99
Resistancy to A. F. B., 481
Revolutionary, what next, 354
San Antonio International Congress of Beekeepers, 162, 352, 481, 677, 678
Season and prices again, 550
Season, checking by entrance flights, 418
September, swarming in, 610
Shippers prepared for big season, 288
Snow beekeepers' best friend, 98
Soil conservation program, 738
Southern shippers prepared for big season, 288
Southern states conference, 43
Stores ample for winter, 736
Sugar, honey and butter, 738
Southland, on to the, 98
Supers, keep on until close of season, 677
Swarming in September, 610
Sweet clover in conservation plan, 226
more, 416
resists drouth, 480
Talk of bee diseases, loose and dangerous, 290
Texas, 226
Texas state apicultural laboratory, 160
Truck, movement of package bees by, 353
Two-story wintering in relation to ample pollen supply, 610
Water content and affect on cooking, 42
Wax moth and its control, 417
Wax presses, decline in sale of, 98
Wet combs, 482
What's the use of knowing so much? 611
White clover belt, laboratory in, 611
White clover, miles and miles of, 289
Wintering, cellar, may be best this winter, 160
Winter losses in bees, 225
Winter, ample stores for, 736
Wintering problem ahead, 549
Wintering, two-story, in relation to pollen supply, 610
Young man, go South, 677

CONTRIBUTORS

Aitchison, John B., 337
Alfonsus, Erwin C., 275
Allen, Mrs. Grace, March cover
Anderson, Edwin J., 268, 533
Anderson, John, 602
Andrews, L. L., 29, 102, 163, 227, 291, 355, 419, 483, 552, 613, 681, 739
Angel, Forest, 671
Arneson, Arnt, 623
Avery, R. G., 216
Babek, Bro. Stephen, 92
Bain, James W., 265
Baltzley, C. A., 230, 292, 358, 488, 685
Barr, Joseph M., 623
Basim, W. S., 41
Baxter, Leroy F., 154
Beyleveld, G. P., 346
Biorness Sigurd, 159
Birch, A. H. W., 101
Bohne, Geo. H., 564, 618
Bowen, A. H., 90
Brewer, Floyd W., 350
Brunnich, Dr. Charles, 414
Buffat, E. F., 40
Burghardt, John, 476
Byer, J. L., 37, 109, 169, 233, 297, 362, 425, 489, 559, 622, 687, 746
Campbell, Colin P., 477
Carr, E. G., 38, 287
Carr, H. M., 542
Carroll, Elmer, 287
Chamberlin, Frank D., 493, 547
Clay, Harold J., 9, 694
Colbert, Leroy, 96
Coldwells, William H., 95
Conner, John, 108, 296, 488, 743
Coolidge, Joseph M., 493
Coulter, W. A., 487, 600, 620
Cranston, Mercedes, 25, 89
Crawford, Garfield, 548
Culhane, Vernon C., 222
Cutts, J. M., 108, 231, 422, 620
Davis, W. J., 40
Davison, Florence Holt, May cover
Deyell, M. J., 41, 48, 112, 157, 170, 234, 299, 364, 427, 432, 496, 560, 628, 665, 690,
Dodge, Natt Noyes, 12, 82
Dorval, Dr. Henri, 733
Douglas, Earl, 94
Duax, C. L., 106, 358, 558, 742
Dunham, W. E., 206, 492
Dunn, J. F., 26, 96, 155, 219, 285, 347, 414, 478, 545, 608, 623, 675, 734
Eckert, J. E., 474, 721
Eldred, M. G., 329
Farrar, C. L., 593
Fernes, Emil F., 335
Fife, Austin E., 21
Floyd, L. T., 22, 32, 105, 201, 360, 555, 745
Forehand, N., 33, 167, 557, 743
Forrest, S. L., 407
Foster, R. E., 630
Frederick, Bro., 410
Gallant, K. A., 344
Gard, A. P., 216
Gates, A. H., 715
Gilbert, C. H., 457
Gollnisch, William, 41
Gooderham, C. B., 73
Graham, Henry H., 545, 688
Greenwood, Florence A., 228, 422, 683
Griffith, Mabel Tusing, 152
Hahman, Wm., 158
Hambaker, Marvin, 494
Hambleton, Jas. I., 525
Hamilton, R., 97

XUM

Hartman, Cary W., 29, 102, 163, 227, 291, 355, 419, 483, 552, 613, 681, 739
Haydak, Mykola H., 23, 85, 284, 413, 599
Hayes, W. P., 465
Hendricks, W. H., 229, 420, 685
Hepler, J. R., 603
Hochstein, Luis B., 608
Hoehn & Sons, Joseph H., 287
Hogarth, A. E., 153, 476
Houser, Abram, 222
Hull, Walter H., 282, 342, 477, 493, 542, 625, 669, 688, 689 730
Humphreys, J. T., 158
Isaacson, C. M., 22, 526
Jeffers, Jim, 666
Jenkins, R. P., 39
Jessup, J. G., 25, 204
Johll, Philip, 527
Johnson, Alfred P., 665
Johnson, Frank F., 427
Jones, Pryce J., 40
Joslin, Walter, 493, 547
Kalthoff, Roy, 158
Kellogg, Claude R., 688, 732
Kelty, Clifford H., 40
Kelty, R. H., 106, 295, 487, 684
Keyser, Wm. H., 750
Klimashesky, E. B., 751
Langstroth, L. L., 222
Latham, Allen, 40, 146, 340, 401, 411, 472, 601, 673
Lathrop, Harry, 159, 604
Leininger, Fred, 166
Lohr, John H., 39
Lothrop, R. E., 397, 469
Lundin, R. C., 101
Lyle, Clay, 426
Lyle, Newman, 747
Lyons, John, 223
McDrew, R. H., 54
McIntyre, Flora, 427
MacNeill, P. W., 671, 689
Manley, R. O. B., 603
Marvin, Geo., 475
Merrell, Harold A., 393
Merrill, J. H., 16
Millard, Ruth, 159
Miller, E. S., 34, 154, 223, 294, 343, 486, 589, 684, 731
Miller, M. D., 494, 623
Morehouse, Bruce L., 585
Mraz, Chas., 92, 158, 232, 423, 686
Munro, J. A., 359, 555
Mutton, H. D., 350
Myers, H. M., 107, 142, 296, 489, 649, 742
Neale, Eleanor J., 101, 350
Nielsen, Mrs. Benj., 24, 80, 213, 406, 529, 591, 623, 668, 671, 713
Nielsen, Benj., 32, 152, 215, 223, 361, 426, 477, 548, 615,
Norgren, J. F., 104, 217, 294, 485, 683
Orlopp, Frank G., 664
Paddock, F. B., 231, 424, 616
Pangburn, W. S., 293
Parker, R. L., 36, 165, 223, 361, 556, 744
Parks, H. B., 30, 103, 164, 228, 292, 345, 357, 421, 486, 538, 553, 614, 656, 682, 740
Pauli, G. A., 740
Pearson C. B. N., 39, 528
Pease, C H., 654
Perrin, Harold I., 344
Pershall, Ewing C., 103, 293, 553
Phillips, Chas E., 148
Pile, Parson, 164, 357, 554
Prevost, E. S., 107, 356, 558
Price-Jones, J., 40
Pritchard, Mel, 473
Pugh, R. M., 35, 229, 616, 723
Rabbitt, Roy, 332
Rahmlow, H J., 281, 343, 351, 724
Rau, Karl, 427
Reed, Earl C., 232, 484
Reese, Chas. A., 665
Rice, J. W., 38
Richmond, Prof. R. G., 491
Rigler, A. W., 159, 494, 527
Rogers, W. L., 547
Rogowski, Alvin, 410
Root, E. R., 18, 52, 76, 150, 210, 271, 281, 395, 399, 459, 472, 494, 525, 531, 539, 596, 601, 606, 631, 651, 659, 664, 718, 725, 728
Root, H. H., 218, 662
Rushing, H. L., 165, 423, 617, 624
Russell, Jas. E., 351
Sanders, Hy. W., 283
Scullen, H. A., 31, 357, 554, 741
Selwyn, H. H., 93, 731
Seitman, T., 93
Seward, H. B., 690
Shallard, A., 26, 605
Shibles, Mark A., 467
Short, H. C., 137
Smith, T. Merle, 350
Snyder, Penn G., 38, 216, 544
Spoerri Apiaries, 689
Stephens, Wm. R., 604
Strayer, Ethel, 40
Strock, Wilson, 494
Sturtevant, J. H., 547
Taylor, Claud, 495
Tanquary, M. C., 168
Tennent, H. D., 346, 605
Thomson, James F., 151
Timblin, A. L., 426
Tollafield, C. G., 750
Tontz, Clarence J., 495, 543, 673, 689
Walker, C. R., 541
Ward, Emory, 351, 669
Weatherford, H W., 166, 558, 745
Wedgworth, Leslie, 30, 104, 165, 485, 614, 741
Weidenkopf, Arlene, 363, 495, 653
Wells, Eugene W., 624
Wheeler, F. L., 547
Wilder, J. J., 35, 167, 359, 621
Wilson, H. F., 33, 230, 421, 429, 521, 619, 674
Wilson, R. Selwyn, 412
Wood, A. D., 168, 356, 615, 744
Wood, C. W., 94
Yates, A. W., 168, 295, 621

DEPARTMENTS

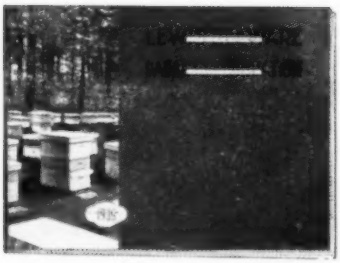
Alabama, 108, 231, 422, 620
American Honey Institute Notes, 212, 279, 338, 429, 491, 564, 630, 694, 747
Arizona, 30, 104, 165, 485, 614, 741
Bees, Men, and Things, 113
British Columbia, 422
California, 29, 102, 163, 227, 291, 355, 419, 483, 552, 613, 681, 739
Colorado, 740
Comments on Current Items, 26, 96, 155, 219, 285, 347, 414, 478, 545, 608, 675, 734
Connecticut, 168, 295, 621
Editorials, 42, 98, 160, 224, 288, 352, 416, 480, 549, 610, 677, 736
Florida, 33, 167, 557, 743
Georgia, 35, 167, 359, 621
Gleaned by Asking, 46, 110, 172, 221, 298, 366, 430, 498, 562, 626, 692, 749
Honey Markets, 4, 68, 133, 196, 261, 324, 388, 452, 516, 580, 644, 708
Indiana, 34, 294, 486, 684
Idaho, 168, 356, 615, 744
Illinois, 106, 358, 558, 742
Iowa, 231, 293, 424, 616
Just News, 50, 113, 173, 349, 428, 490, 565, 632, 680, 748
Kansas, 36, 165, 361, 556, 744
Louisiana, 618
Manitoba, 32, 105, 360, 555, 745
Michigan, 106, 295, 487, 684
Minnesota, 168
Montana, 164, 357, 554
Nebraska, 32, 361, 615
New Jersey, 108, 296, 488, 743
New York, 107, 296, 489, 742
North Dakota, 359, 555
Ohio, 166, 487, 620
Oklahoma, 230, 292, 358, 488, 685
Ontario, 37, 109, 169, 233, 297, 362, 425, 489, 559, 622, 687, 746
Oregon, 31, 357, 554, 741
Saskatchewan, 35, 229, 616
South Carolina, 107, 356, 558
South Dakota, 104, 294, 485, 683
Spinster Jane Says, 27, 97, 156, 220, 286, 348, 415, 479, 546, 609, 676, 735
Talks to Beginners, 48, 112, 170, 234, 299, 364, 432, 496, 560, 628
Tennessee, 165, 423, 617
Texas, 30, 103, 164, 228, 292, 357, 421, 486, 553, 614, 682, 740
Utah, 229, 420, 685
Vancouver Island, 228
Vermont, 232, 423, 686
Virginia, 166, 558, 745
Washington, 103, 293, 553
Wisconsin, 33, 230, 421, 619
Wyoming, 232, 484

Gleanings in Bee Culture

Does He See His Shadow?

Volume LXIV February, 1936 Number 2

WE COULD NOT—



Here is the dressed-up 1936 Beeware catalog. It contains much to help you. Be sure you get a copy soon.

Here is one dealer's warehouse all set for 1936. Ask us for your nearest dealer's name and a free copy of "A Hobby That Pays."

— improve the product so we have improved the catalog. The 1936 Beeware catalog is a complete change from any bee supply catalog you have seen. Every honey producer will want a copy. If you do not receive one by February 1, send us a postcard so we do not unintentionally overlook you.

••

With the assistance of an expert layout man, the whole style has been changed from cover to cover. Much more information about the use of the product and about honey production has been included in a complete re-write of the copy. A new style of type is used that is easier to read. A change in the style of binding and a complete index make it easy to find just what you want. You will like the color combinations and we believe you will agree, when you see it, that this Lewis catalog sets a new and needed style in bee supply catalogs.

••

Some 1936 Beeware prices are lower. Rising costs, brought about by increasingly better times, make it unlikely that you will buy Lewis Beeware again at these low prices for a long time to come. Honey prices were much better in 1935 and no fall for a long time has shown better prospects for the coming year. Plan your 1936 operations now. Send us a list of items you will need and let us quote without obligation to you. Get ready for a better 1936 right now!

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

HOME OFFICE AND WORKS WATERTOWN, WISCONSIN, U.S.A.

BRANCHES — ALBANY, NEW YORK LYNCHBURG, VIRGINIA WHEELING, W. VA. SIOUX CITY, IOWA

XUM

OHIO STATE UNIVERSITY
MAR 14 1936
LIBRARY

Gleanings in Bee Culture

MARCH

This mad young March! with the sting of his laughter
Flung back like a dare as he roars thru the days,
While troops of wild winds, reeling recklessly after,
Dance round with delight at his riotous ways!

Who cares what rough unrest he brings?
He's doing things! He's doing things!

He lashes the trees till their sap is atingle,
He teases the grasses and bullies the birds,
He rowdies around with the shutter and shingle,
And shouts without rhythm unmusical words!

Who cares what savage song he sings?
He's waking things! He's waking things!

The hives by the fence as with gossip are humming---
"We know him, the rogue!" Aye, they know him, those bees!
And swift thru his winds they are going and coming
To plunge in the pollen of feathery trees.

They chide no mood whose courage flings
The bonds from waking hearts of things.

--- Mrs. Grace Allen.

Volume LXIV March, 1936 Number 3

XUM

Here Is a Page

—from the 1936 Lewis catalog. You are invited to send us your name and address if you have not received a copy by the time you read this advertisement. This catalog represents the most complete change in bee supply catalogs and is crammed full of good things for beekeepers.

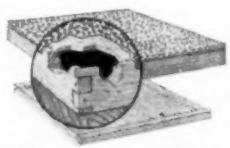
There are no advances in price on wooden goods over 1935. You get the same fine quality Beeware and service through our several hundred dealers. Advancing costs make it unlikely you will again be able to buy at these prices for years. Send us a list of your needs and we will gladly quote, without obligation to you.

Metal Covers and Bottom Boards

HIVE PARTS

Metal Roof Covers

This metal roof cover with inner cover provides the best protection, durability and convenience of any type cover you may buy. Properly assembled and painted it will last a life time, as the design came from Rauchfuss Brothers of Colorado, widely known as real honey producers. The tops are No. 1 sheets of 28 gauge galvanized steel. Under the metal is a wood roof board fitting into rabbets cut away in the end and side rails, giving great rigidity. All dovetails fit snugly and are waterproof. In assembly several sheets of newspaper may be inserted between the metal and wood roof boards giving additional insulation. This cover telescopes down over the sides of the hive 1¼ inches giving excellent weather protection. Before painting the metal wash it off with a weak solution of blue vitriol so paint will adhere. The picture shows a corner cut away to emphasize the strong construction. All clear fine western pine. Each metal roof cover includes an inner cover. The latter set on top of the hive, the metal roof over all. Space between provides insulation against heat or cold. The inner cover has a hole for use as a bee escape board if desired, which may be closed with a piece of section otherwise. End cleats rabbeted.



No. 2036. 10-Frame Telescoping Metal Cover. Metal Edges Punched for Easy Nailing.

Cypress Bottoms

Each Lewis hive is supplied with a bottom board made entirely of full thickness cypress, clear from blemishes. This wood never rots hence its use in the bottom. Side rails and floor boards are heavy and cross nailing gives great strength. The boards that make the floor are tongued and grooved to give a tight, robber-proof fit and a smooth flat floor. In addition the floor boards fit into rabbets cut into the heavy side rails for still greater strength. The board is so made that one side gives a ⅜ inch entrance, the other a ¾ entrance. Most beekeepers use the ¾ side up the year around and reduce the entrance, when necessary, with the entrance stopper that comes with each bottom board made by Lewis. This stopper permits several sizes of entrance or may be entirely removed from strong colonies in warm weather. The bottoms are usually fastened to the hive bodies with the 2 inch hive staples listed on page 32. Modified Dadant bottom boards are listed on page 2.

Description	How Furnished	Pkg. of	Ten Frame Cat. No.	Ten Frame Price	Wt. lbs.	Eight Frame Cat. No.	Eight Frame Price	Wt. lbs.
Metal Roof and Inner Cover	K.D.	1	T2036	$1.25	11	T2836	$1.20	10
Metal Roof and Inner Covers	K.D.	5	T2037	5.25	47	T2837	5.00	43
Inner Cover	K.D.	1	T2038	.34	3	T2838	.33	2
Inner Covers	K.D.	10	T2039	3.10	22	T2839	3.00	19
Reversible Bottom	K.D.	1	T2032	$ .72	9			
Reversible Bottoms	K.D.	5	T2033	3.15	36	T2832	3.00	31

No. 2032. 10-Frame Standard Bottom Board.

Page 17

Address your requests to us at Watertown or any of the addresses shown below.

G. B. LEWIS COMPANY • WATERTOWN, WISCONSIN

HONESTLY MADE——HONESTLY SOLD——HONESTLY PRICED

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

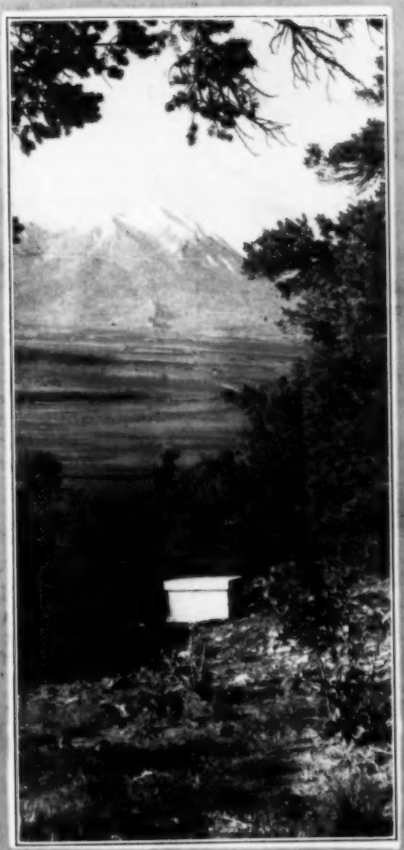
G. B. LEWIS COMPANY

Established 1863.

WATERTOWN, WISCONSIN, U. S. A.

Branches: Albany, N. Y. Lynchburg, Va. Wheeling, W. Va. Sioux City, Iowa.

Gleanings in Bee Culture



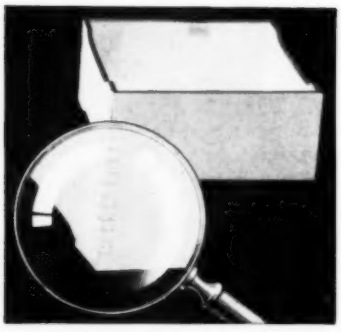
April in Colorado

Volume LXIV April, 1936 Number 4

Announcing

A NEW FINISH

on Lewis Section Honey Boxes



See how the dovetails lock tightly without jamming.

How would you like a finish on section honey boxes that is smoother than ever? Would you like sections sanded to a real velvety finish? You can clean the surface of these sections easier than ever, to present an unstained surface for sale. You get this only in the new Lewis section honey box, offered first by us for 1936.

Honey producers have long sought for a smoother finish on section honey boxes. This should enable them to clean off propolis stains easier and more efficiently than from sections not so finished. Although Lewis sections have for years enjoyed the reputation of having a fine finish, we were not satisfied with the job we did.

By the installation of new equipment and enlargement of our mill, Lewis now offers this additional advantage in "Beeware" section honey boxes at no additional cost to the producer. Remember, you get this only in "Beeware."

See "before and after" finish you get in Lewis sections.

Along with this new finish you get the choice of Wisconsin's basswood, which no other can offer. Lewis buys many hundreds of thousands of feet of basswood yearly for other products besides sections, thus giving you the benefit of our buying power in basswood.

All Lewis sections have the tight, lock-corner dovetail and non-break V-groove that have made "Beeware" the "Standard of the Beekeeping World." Try Lewis sections in 1936. Produce some section honey and get better prices this season.

Ask for a free copy of our booklet, "A Hobby That Pays," and a 1936 "Beeware" catalog.

HONESTLY MADE——HONESTLY SOLD——HONESTLY PRICED

LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863.

WATERTOWN, WISCONSIN, U. S. A.

Branches: **Albany, N. Y.** **Lynchburg, Va.** **Wheeling, W. Va.** **Sioux City, Ia.**

B & Z LIBRARY

Gleanings in Bee Culture

SONG OF THE BEE

Give me a day
That is balmy and shimmering;
Give me a field
Where the clover blooms sway;
O let me linger
Where nectar is gathering,
Deep in the blossoms of flowering May.

Give me a shelter
Where sunlight is filtering,
Tempering music
Of humming and whirr,
Then will I gather
A treasure so glistening,
Fragrant as incense, and precious as myrrh.

---Florence Holt Davison.

Volume LXIV May, 1936 Number 5

XUM

Frames That Stand Up

Frames get more abuse than any other part of a bee hive. Aside from handling to examine the bees, they are often hauled for miles over rough roads to the extracting house. Whirling in an extractor racks any frame no matter how carefully assembled.

• • •

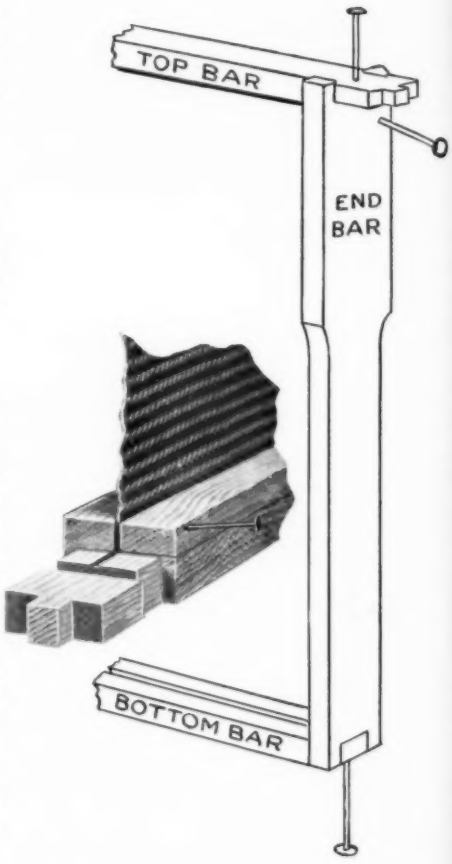
Lewis frames are built to stand the gaff. In planning their design contact was made with many of this country's leading producers. Changes from the old staple spaced frame were made with the idea of building a frame that would meet the needs of all.

• • •

Aside from the slotted bottom bar, designed especially for use with Dadant's wired foundation, the Lewis frame has a strong wedge. This clinches the foundation into place and prevents sagged cells in the finished comb. All accurate cells mean brood from top to bottom of each comb.

• • •

The accompanying halftone shows accurately how the end bar is shaped in the Lewis long top bar style. This frame is also made in short top bar length. Both have the heavy wedge and patented features of construction available only through Lewis dealers and distributors. All end bars also piereed for wiring. Line drawing shows only correct assembly for greatest strength. Use Lewis frames for 1936.



HONESTLY MADE——HONESTLY SOLD——HONESTLY PRICED

LEWIS BEEWARE

'STANDARD' OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863.

WATERTOWN, WISCONSIN, U. S. A.

Branches: Albany, N. Y. Lynchburg, Va. Wheeling, W. Va. Sioux City, Ia.

Gleanings in Bee Culture

When the shadows of life dim the vision,
And the joys of the heart are in flight,
From the delicate tracery of morning
Shines the glory of youth through the light.

Volume LXIV June, 1936 Number 6

When you need

CLEAN·BRIGHT·TIGHT HONEY CANS OR PAILS

THERE'S A CONTINENTAL DISTRIBUTOR NEAR YOU

• CALL THE NEAREST CONTINENTAL DISTRIBUTOR

PHOENIX, ARIZ.
Quick Seed & Feed Co.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

BRAWLEY, CALIF.
R. W. Tabor

LONG BEACH, CALIF.
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant and Cookinham
California Honey Co.
Hamilton & Co.
Los Angeles Honey Co.
Superior Honey Co.

OAKLAND, CALIF.
F. E. Boyden-Hansen Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

DENVER, COLO.
Colorado Honey Producers Assn.
R. J. Chadbourne

BOISE, IDAHO
Reilly, Atkinson & Co., Inc.

CHICAGO, ILL.
A. I. Root Co.

HAMILTON, ILL.
Dadant & Sons

DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
A. I. Root Co. of Iowa

SIOUX CITY, IOWA
Sioux Honey Assn.
G. B. Lewis Co.

GRAND RAPIDS, MICH
A. G. Woodman Co.

LANSING, MICH.
M. H. Hunt & Son

ONSTED, MICH.
L. M. Hubbard

MOORHEAD, MINN.
North Dakota Bee Supply Co.

ST. PAUL, MINN.
A. I. Root Co.

WINONA, MINN.
Standard Lumber Co.

MANHATTAN, MONT.
Superior Honey Co.

ALBANY, N. Y.
G. B. Lewis Co.

FARGO, N. DAK.
Magill & Co.

GRAND FORKS, N. DAK.
Gordon A. Bell

OGDEN, UTAH
Superior Honey Co.

PROVO, UTAH
Miller Honey Co.

LYNCHBURG, VA.
G. B. Lewis Co.

WATERTOWN, WISC.
G. B. Lewis Co.

• Distributors of Continental Honey Cans are strategically located throughout the country One or more are convenient to you.

Each Continental Distributor carries a stock of Honey Cans that have been tested at the factory for leaks and that will assure your Honey the utmost protection.

Write or wire any of these Distributors for samples, prices or full information.

CONTINENTAL CAN COMPANY

4622 WEST NORTH AVENUE, CHICAGO, ILLINOIS

WHEELING JERSEY CITY LOS ANGELES ST. LOUIS CINCINNATI

B & Z

OHIO STATE UNIVERSITY
JUL 6 1936
LIBRARY

Gleanings in Bee Culture

Lonely, unnoticed, where beauty abounds,
Like a poor little waif in this world of power,
But with head up-raised and a brave-beating heart,
A realm in itself, is each lovely flower.

Volume LXIV July, 1936 Number 7

XUM

CONTINENTAL

HONEY CANS and PAILS

"IT'S BETTER PACKED IN TIN"

THESE clean, bright, tight cans will help you sell more honey. They make a strong appeal to your customers and assure the Honey reaching them in excellent condition. Made in several styles and sizes to meet your needs. Complete information, prices, terms or samples may be secured through any of the distributors listed here, or any of our offices.

THESE DISTRIBUTORS ARE READY TO SERVE YOU:

PHOENIX, ARIZ.
Quick Seed & Feed Co.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

BRAWLEY, CALIF.
R. W. Tabor

LONG BEACH, CALIF
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant and Cookinham
California Honey Co.
Hamilton & Co.
Los Angeles Honey Co.
Superior Honey Co.

OAKLAND, CALIF.
F. E. Boyden-Hansen Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

DENVER, COLO.
Colorado Honey Producers Assn.
R. J. Chadbourne

BOISE, IDAHO
Reilly, Atkinson & Co., Inc.

CHICAGO, ILL.
A. I. Root Co.

HAMILTON, ILL.
Dadant & Sons

DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
A. I. Root Co. of Iowa

SIOUX CITY, IOWA
Sioux Honey Assn.
G. B. Lewis Co.

GRAND RAPIDS, MICH.
A. G. Woodman Co.

LANSING, MICH.
M. H. Hunt & Son

ONSTED, MICH.
L. M. Hubbard

MOORHEAD, MINN.
North Dakota Bee Supply Co.

ST. PAUL, MINN.
A. I. Root Co.

WINONA, MINN.
Standard Lumber Co.

MANHATTAN, MONT.
Superior Honey Co.

ALBANY, N. Y.
G. B. Lewis Co.

FARGO, N. DAK.
Magill & Co.

GRAND FORKS, N. DAK.
Gordon A. Bell

OGDEN, UTAH
Superior Honey Co.

PROVO, UTAH
Miller Honey Co.

LYNCHBURG, VA.
G. B. Lewis Co.

WATERTOWN, WISC.
G. B. Lewis Co.

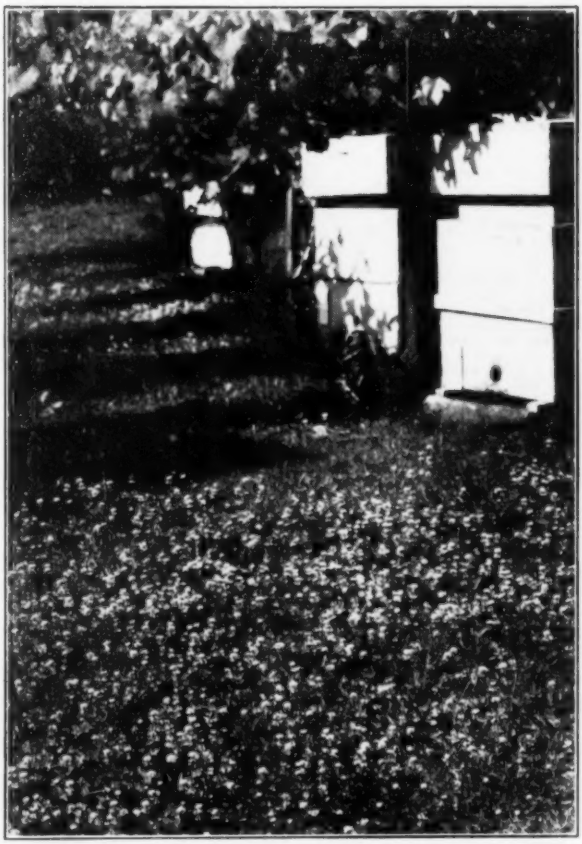
CONTINENTAL CAN COMPANY

4622 WEST NORTH AVENUE, CHICAGO, ILL

WHEELING JERSEY CITY LOS ANGELES ST. LOUIS CINCINNATI

OHIO STATE UNIVERSITY
AUG 3 1936
LIBRARY

Gleanings in Bee Culture



White Clover in the Home Apiary of
The A. I. Root Company, Medina, O.

Volume LXIV August, 1936 Number 8

XUM

When you need

CLEAN•BRIGHT•TIGHT HONEY CANS OR PAILS

THERE'S A CONTINENTAL DISTRIBUTOR NEAR YOU

• CALL THE NEAREST CONTINENTAL DISTRIBUTOR

PHOENIX, ARIZ.
Quick Seed & Feed Co.

ALHAMBRA, CALIF.
B-Z-B Honey Co.

BRAWLEY, CALIF.
R. W. Tabor

LONG BEACH, CALIF
J. E. Delgado & Co.

LOS ANGELES, CALIF.
Bryant and Cookinham
California Honey Co.
Hamilton & Co.
Los Angeles Honey Co.
Superior Honey Co.

OAKLAND, CALIF.
F. E. Boyden-Hansen Co.

SAN FRANCISCO, CALIF.
E. F. Lane & Son

DENVER, COLO.
Colorado Honey Producers Assn.
R. J. Chadbourne

BOISE, IDAHO
Reilly, Atkinson & Co., Inc.

CHICAGO, ILL.
A. I. Root Co.

HAMILTON, ILL.
Dadant & Sons

DECATUR, IND.
The Brock Store

COUNCIL BLUFFS, IOWA
A. I. Root Co. of Iowa

SIOUX CITY, IOWA
Sioux Honey Assn.
G. B. Lewis Co.

GRAND RAPIDS, MICH.
A. G. Woodman Co.

LANSING, MICH.
M. H. Hunt & Son

ONSTED, MICH.
L. M. Hubbard

MOORHEAD, MINN.
North Dakota Bee Supply Co.

ST. PAUL, MINN.
A. I. Root Co.

WINONA, MINN.
Standard Lumber Co.

MANHATTAN, MONT.
Superior Honey Co.

ALBANY, N. Y.
G. B. Lewis Co.

FARGO, N. DAK.
Magill & Co.

GRAND FORKS, N. DAK.
Gordon A. Bell

OGDEN, UTAH
Superior Honey Co.

PROVO, UTAH
Miller Honey Co.

LYNCHBURG, VA.
G. B. Lewis Co.

WATERTOWN, WISC.
G. B. Lewis Co.

A. I. Root Company, Syracuse, N. Y.

• Distributors of Continental Honey Cans are strategically located throughout the country One or more are convenient to you.

Each Continental Distributor carries a stock of Honey Cans that have been tested at the factory for leaks and that will assure your Honey the utmost protection.

Write or wire any of these Distributors for samples, prices or full information.

CONTINENTAL CAN COMPANY

4622 WEST NORTH AVENUE, CHICAGO, ILLINOIS

WHEELING JERSEY CITY LOS ANGELES ST. LOUIS CINCINNATI

OHIO STATE
UNIVERSITY
SEP 2 1936
LIBRARY

Gleanings in Bee Culture

Skyscraper in a Wisconsin Apiary at the Close of the Honey Flow at the Home of A. J. Schultz, at Ripon

Volume LXIV September, 1936 Number 9

XUM

HONEY CONTAINERS

SOLDERED WITH VIRGIN TIN

All our tin containers in the three smaller sizes are this year soldered with virgin tin. In this way no honey can come into contact with lead, used in ordinary solder. You run no risk of contamination or confiscation of shipment by pure food authorities. If your order is for $50 at the prices shown, deduct 5%; if $100, deduct 10% in ordering tin and glass containers or both together.

	—A—	—B—	—C—	—D—	—E—
2½ lb. cans, 100 in ctn., wt. 31 lbs...	$3.95	$3.95	$3.90	$4.00	$4.00
5 lb. pails, 50 in ctn., wt. 27 lbs.....	3.55	3.55	3.45	3.55	3.55
10-lb. pails, 50 in ctn., wt. 45 lbs....	5.10	5.10	5.00	5.15	5.15
5-gal. cans, 1 in ctn., wt. 6 lbs.....	.45	.45	.44	.45	.46
5-gal. cans, 50 in crate, wt 175 lbs*..	16.00	16.00	16.00	16.00	16.00
½-lb. jars, 24 in ctn., wt. 12 lbs....	.67	.67	.63	.69	.69
1-lb. jars, 24 in ctn., wt. 21 lbs.....	.88	.88	.85	.90	.90
2-lb. jars, 12 in ctn., wt. 17 lbs.... .	.60	.60	.60	.65	.65
3-lb. jars, 12 in ctn., wt. 21 lbs.....	.73	.73	.66	.73	.73

*Can only be shipped 50/c.

A—F. O. B. Watertown, Wis. B—F. O. B. Sioux City, Iowa. C—F. O. B. Wheeling, W. Va. D—F. O. B. Lynchburg, Virginia. E—F. O. B. Albany, New York.

WINDOW CARTONS

These beautiful blue and white cartons with a large cellophane window show up section honey to the best sales advantage. The color combination blends wonderfully with the white comb surface and the large window shows an enticing area of honey comb to the buyer. Flowered around the edges with clover blossoms and completely enclosing the section, these cartons surely help sell honey for more money.

T644—4¼"x1⅞" Beeway.
T645—4¼"x1½" No B'way.
T646—4"x5"x1⅜", No B'way

100, $1.20; 500, $5.50; 1,000, $10.00.

Weight, 6½ lbs. per 100; 55 lbs. per 1,000. All postage ex.

REVELATION COMB HONEY WRAPPERS

	100	500
T649—Colored, 4¼	$ .80	$3.65
T664—Plain 4¼	.55	2.50
T654—Colored 4x5	1.00	4.35
T658—Colored Bag, 4¼	.95	4.05
T430—Bag filler device, wt. 2 lbs. each		.50

Above postage extra. Wt. 100, 1 lb.; 500, 5 lbs. Write Lynchburg for prices on all cellophane plain wrappers.

Ask for our general catalog too if you wish items other than those listed here.

G. B. LEWIS COMPANY, Watertown, Wisconsin

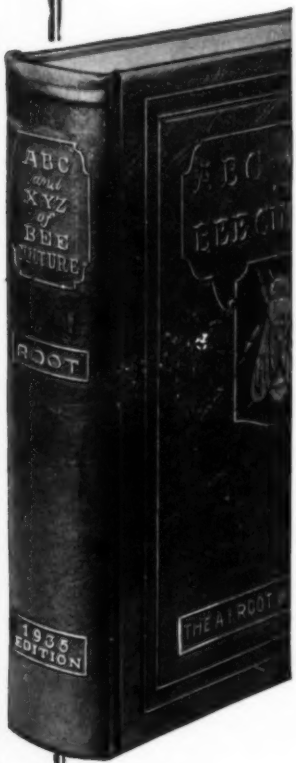
BRANCHES: COLONIE & MONTGOMERY STS., ALBANY, N. Y.; 1117 JEFFERSON ST., LYNCHBURG, VIRGINIA; MAIN, SOUTH & SIXTEENTH STS., WHEELING, W. VA.; 1915 E. FOURTH ST., SIOUX CITY, IA.

Send your order to our office nearest to you

Gleanings in Bee Culture

XUM

--Proclaimed Everywhere



—As the Finest

—The Most Comprehensive

—The Bee Book Without a Peer

• • •

BY WORLD AUTHORITIES

• • •

Thousands of Beekeepers Owe Their Success to This Book

ABC and XYZ of Bee Culture

$2.50 *Postpaid*

[WITH A 2-YEARS' SUBSCRIPTION TO GLEANINGS IN BEE CULTURE, FOR $3.50. (FOREIGN, $4.00.)]

"I now have a copy of the A B C and X Y Z of Bee Culture and am delighted with the book. I feel a great increase of confidence in working under its guidance and believe that supplemented by your journal it forms an ideal home study combination."—B. W. I.

"Received your late edition of the A B C and X Y Z of Bee Culture and think the book is the best all-around work on bee culture."—California.

"The A B C and X Y Z of Bee Culture sure is a book full of data. If what you want is not in that book, then it can be of no value, for I believe it contains all there is to know on bees."—Pennsylvania.

The A. I. Root Company, Medina, Ohio, U. S. A.

OHIO STATE UNIVERSITY
NOV 4 1936
LIBRARY

B & Z LIBRARY

Gleanings in Bee Culture

Man's invasion of the bees' domain.

Volume LXIV November, 1936 Number 11

THE CHILD'S HEALTH TODAY IS THE
NATION'S HEALTH TOMORROW

BUY

CHRISTMAS
SEALS

The National, State and Local Tuberculosis Associations of the United States

Gleanings in Bee Culture

A Merry Christmas

VOL. LXIV. DECEMBER, 1936 NO. 12

XUM

Since 1869

—The beekeepers from every state and hamlet in our fair land, from coastal cities on distant shores or from cities far inland reached only by pack trains, where strange languages are spoken, have always thought of Root's at Medina as the source of the best, not only in beekeeping equipment, but for information.

Since 1869

—There has been developed by Root's an enviable list of inventions and improvements that have made beekeeping more profitable—the foundation mill, the radial extractor, the locked-corner frame, and improvements too numerous to mention.

Since 1869

—The name Root Quality has been a guarantee to the beekeeper of the "**BEST BY THE BEE TEST,**" not only in material but in design and accuracy.

Since 1869

—The policy of Root's has been to give full value for the price, and now after 67 years in marketing a line of bee supplies known around the world for satisfaction and economy, we are still the leader.

BECAUSE the beekeepers of the world have given us their patronage. Our proud heritage is your guarantee for the future.

Root QUALITY BEE SUPPLIES

THE A. I. ROOT CO.
MEDINA, OHIO

Root QUALITY BEE SUPPLIES